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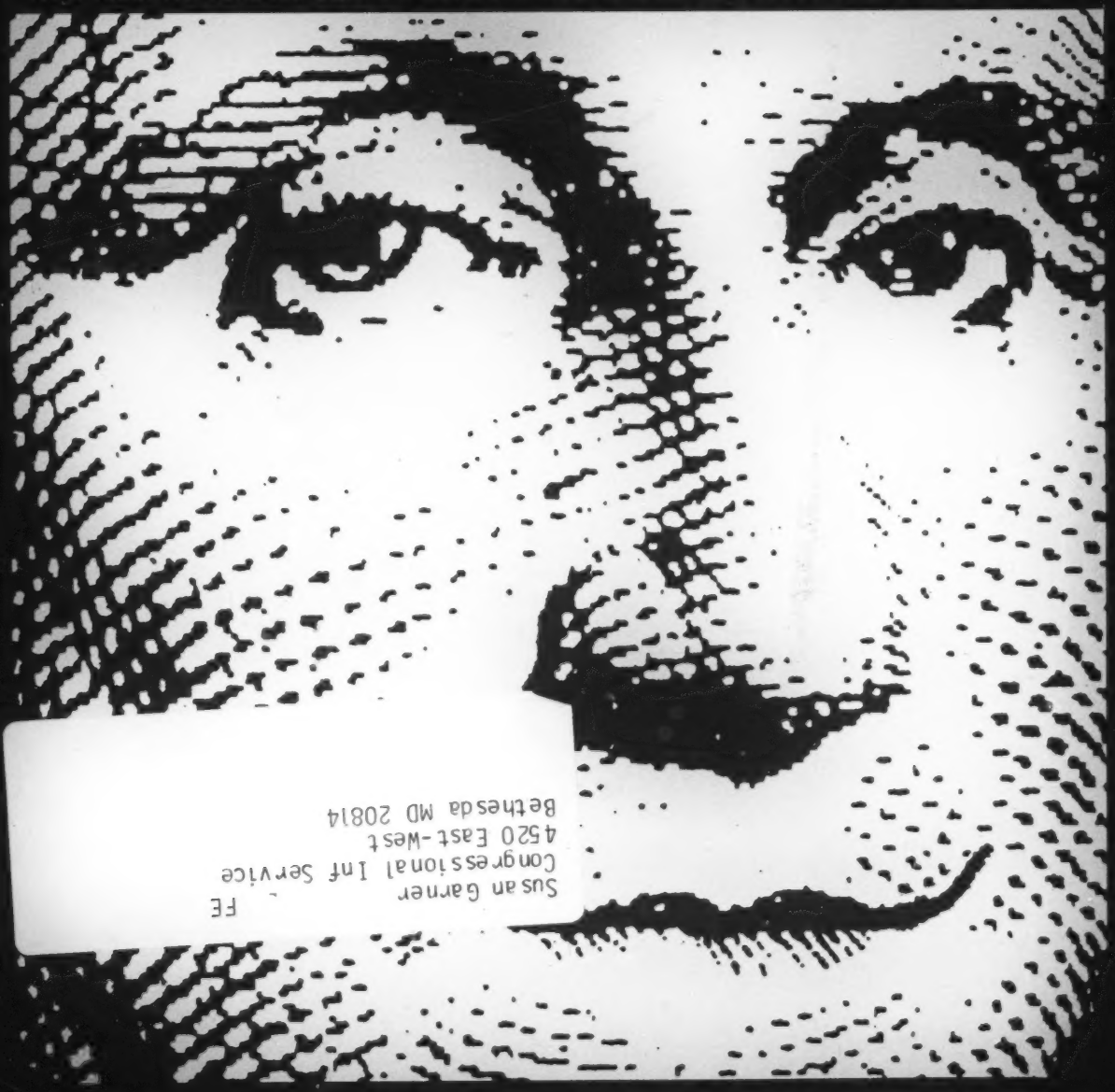

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ANNUAL STATE OF THE FOOD INDUSTRY

FOOD ENGINEERING

COVER STORY
Mega-mergers, along with strong stocks, are fueling a healthy industry, according to *Food Engineering's* annual report on the state of the food industry.

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11 Industry Report
This month's Report talks about major changes in Campbell's refrigerated product line; Procter & Gamble's request for FDA approval of the fat replacer, olestra; the continuing trend of mega-mergers; and a study of Americans' breakfast-eating habits.

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The industry strives to meet demands for convenient, fresh and natural foods, while developing more shelf stable products, according to *FE's* annual survey.

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Flavors play a critical role in new products acceptance. New technologies are helping provide a wider selection of flavors.

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The transfer metallization process results in a metallized paper with superior reflectivity and print receptivity.

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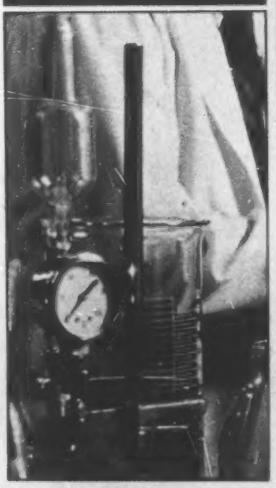

Special Emphasis

FOODS AND FLAVORS BENEFIT FROM TECHNOLOGICAL ADVANCES

Modern technologies are playing an increasingly significant role in the manufacture of today's foods.

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READ IT AND WIN AD CONTEST
For readers and advertisers
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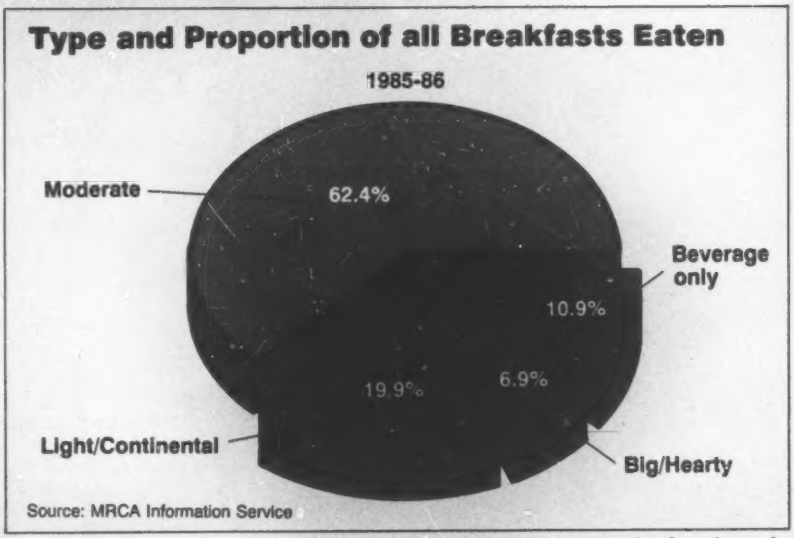
Eating breakfast 'out' has become the 'in' thing



This chart shows the four most common types of breakfasts eaten by Americans in 1985-86 and the percentage of each type. Moderate breakfasts are eaten by over half of all Americans. And a growing number of people are eating breakfast out at fast food restaurants.

Americans are eating breakfast away from home more than ever. In fact, the number of people eating breakfast away from home has grown 23 percent since 1983, according to a study from MRCA Information Services, Stamford, CT. And the number of breakfasts eaten at fast food places rose 83 percent in the same time period.

Despite the rise in eating breakfast out, nearly 90 percent of all breakfasts are still eaten at home. And, contrary to popular belief, only 4 percent of Americans skip breakfast on a regular basis.

Today's busier lifestyles and the increased number of women in the workplace has started a trend towards simpler meals at home and an "eat and run" mentality outside the home.

Eating on the run

The study also found that consumption of nearly every "eat out" breakfast food category has increased since 1983. Breakfast sandwich consumption was up 37 percent; bakery/sweet goods up 12 percent; potatoes up 70 percent; and carbonated beverages up 88 percent.

Another trend, skipping breakfast, has also changed. On the rise in the late seventies to early eighties, the breakfast skipping trend reversed itself after 1983. Possible reasons for the reversal: consumers have become increasingly concerned with good nutrition—or the growing number of fast food breakfast options has made it too convenient not to skip breakfast.

The study also found that breakfast menus have changed considerably since 1983. Eggs are eaten 14 percent less, sandwiches 6 percent less and breakfast meats 7 percent less. On the other hand, consumption of fruit for breakfast is up 13 percent, instant breakfast/milkshakes up 19 percent and cereals up 2 percent.

Different Strokes

The region of the country consumers live in, as well as their income, accounted for preferences in types of breakfast foods. Light/continental breakfasts are popular in the Northeast, while big/hearty breakfasts are high on the list of people who live in the South. And beverage only breakfasts are eaten mostly by those with higher incomes.

Ingredient losses cut 78%.

Switch to mass flowmeters ups productivity 25%.

In the food processing business, where product quality and consistency, inventory control and ultimately profits depend on precise blending of the proper amount of each ingredient, accurate metering is a must. Changes in density caused by temperature and ingredient variations, however, make it difficult for volumetric flowmeters to measure up.

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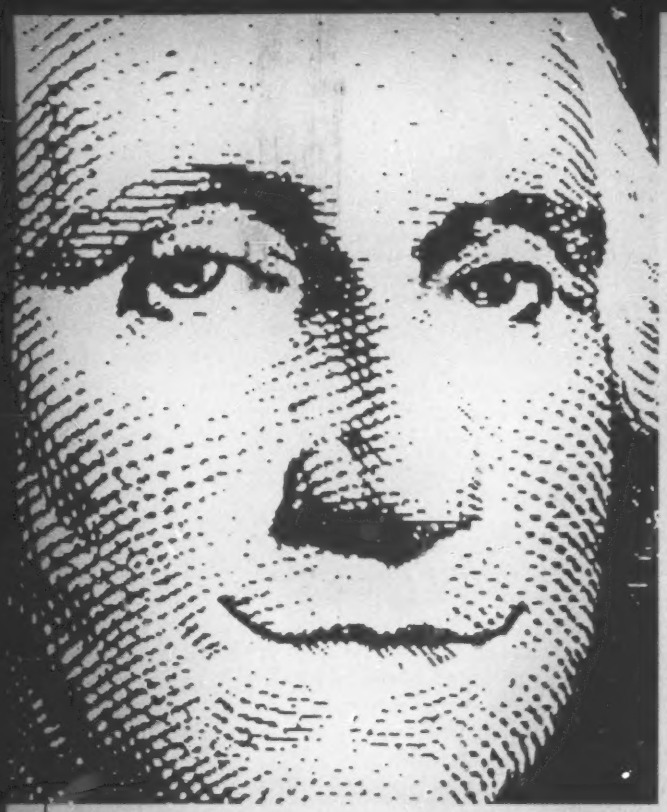

MERGERS FUEL A HEALTHY INDUSTRY

Finding and winning niche markets, developing new products to meet new demands, and restructuring for enhanced performance spell success for the processor.

When the computers finished crunching the numbers for 1986, the food industry looked back at the past 12 months with few regrets. It was a good year, a year in which the value of all food and beverage industry shipments showed a 1.4 percent increase over the previous year; a year in which 3,389 new products were introduced (an increase of 43.7 percent when compared with 1985). Merger and acquisition activity once again fueled an active food processing industry. Food stocks were strong and should remain so. But a disturbing question hangs in the air: Is the food industry really chasing new opportunities with new innovations or is it only chasing its own tail?

Product	1983	1984	1985	1986
Meat	$66,392	$68,579	$66,075	$67,898
Dairy	40,218	40,402	41,639	42,550
Preserved Fruits & Vegetables	31,313	34,058	36,186	36,348
Grain Mill (incl. breakfast foods)	33,250	34,377	35,078	35,754
Bakery	18,208	19,387	21,064	22,226
Sugar	6,042	6,149	6,234	6,285
Confectionery	10,401	11,279	11,927	12,410
Fats/Oils	17,073	19,551	20,977	21,918
Beverages	40,229	41,181	42,713	44,123
Seafood (fresh/canned)	5,627	5,281	5,017	5,343
Other	18,334	19,772	20,417	21,826
TOTAL	$287,087	$300,016	$307,327	$316,681

*Estimated
Source: U.S. Industrial Outlook 1987

Healthy sales increase

Across the 49 U.S. food processing industries, sales for 1986 were estimated by the Department of Commerce to be $316.6 billion. This represents a 3 percent increase from 1985 when sales were $307.3 billion.

Once again the food system continued to be the largest marketing system in the U.S. economy, responsible for one-tenth of U.S. employment and gross national product.

Food processors were able to reap the rewards of lower prices for many domestic farm commodities, paying, overall, to the country's farmers, about 5 percent less than they did in 1985 and 15 percent less than in 1984. It is estimated that prices of agricultural commodities have fallen 20 percent since 1980. The future doesn't look any brighter for agricultural commodities. Grain prices, for example, are forecast to weaken even more in 1987, then level off at the lower end of the scale until the end of the decade.

A 15 percent decline in energy prices, fueled by a reduction in the price of crude oil from 1985 to 1986, also helped food processors. This had a complementary effect of reducing the cost of transporting materials and finished products and of reducing packaging costs.

(Continued on next page)

Charles E. Morris, Midwest Editor; William C. Drennan, Senior Editor; Dianne Taylor Herrin, Contributing Editor, Ann E. Przybyla, Technical Editor; Linda K. Freeman, Contributing Editor; Kevin Hannigan, Features Editor.

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STATE OF THE FOOD INDUSTRY

(Continued from previous page)

Strong stock performance

One barometer of a successful year is the status of industry stocks. "Food stocks in 1986 did extremely well," says John Maxwell of the New York firm of Furman, Selz, Mager, Dietz & Birney, as the industry saw "high visibility of earnings and earnings growth."

This has been the case since 1980. U.S. packaged food stocks have outperformed the market since that time and passed the S&P 500 in 1984 in actual as well as relative performance.

The strong performance of food stocks in 1986 is credited to food companies' expanded earnings power. When Value Line Investment Survey valued food stocks against its Industrial Composite, results showed that the average share earnings of those food stocks rose 57 percent in the '80s, compared with no growth in the composite.

This strength is a trend that is expected to continue through 1987 for a number of reasons, not the least of which are the new tax regulations that come into effect and, just as significant, the continuation of aggressive merger and acquisition activity. The ability of food companies to show a good return to their shareholders, yet still be able to successfully restructure, divest, acquire and consolidate, shows a well-managed industry where stocks should continue to hold a position of strength.

The forecast of slow growth for the country's economy in 1987 should also have a positive effect on food industry stocks, as their traditional show of strength and constancy during slow-growth periods will be a plus for investors.

Mergers & acquisitions

If there is one thing that everyone can agree on within the food industry it is that not only did the hectic pace of merger and acquisition activity continue in 1986, but it will continue through 1987 unabated. Just look at past history: There were 583 mergers/acquisitions in 1984, 658 in 1985 and 724 in 1986, according to statistics compiled by The Food Institute. This represents a 10 percent increase in activity in 1986 over 1985.

In just the first nine months of 1987, 516 mergers and acquisitions took place involving more than 414 companies in the food area. This represented a 3.6 percent increase compared to the first nine months of 1985.

In viewing 1986 from a mergers and acquisitions standpoint, what comes to mind first are the large megamergers and acquisitions, such as Beatrice's $6.2 billion leveraged buyout by Kohlberg, Kravis, Roberts and Company; Pepsico's $850 million purchase of Kentucky Fried Chicken from RJR Nabisco and subsequent purchase of Seven-Up international bottling operations from Philip Morris; and Quaker Oats Company's agreement, in late 1986, to acquire Anderson Clayton Company in a $800 million transaction. It seems the food industry has become like a large checker board, and certain companies are vying for the opportunity to "king" other firms.

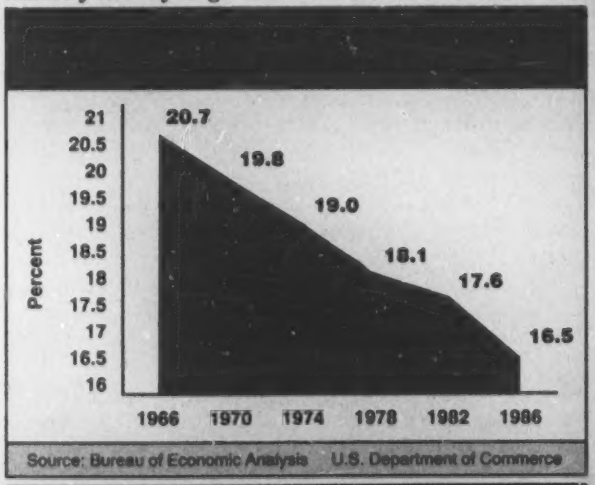
Of the total number of transactions that were consummated, 114 of them involved 59 companies. It seems one merger or acquisition begets another. After Beatrice's leveraged buyout, the company sold its soft drink bottling operation to the Coca-Cola Company ($1.2 billion). Coca-Cola then bought another bottling group ($1 billion).

Borden was busy in the past year, acquiring 15 companies and selling five businesses. Divested were low-profit or cyclical operations; kept were those areas of operation showing high-growth and high margin. Cash from sales of its operations were used to finance acquisitions holding down the company's debt.

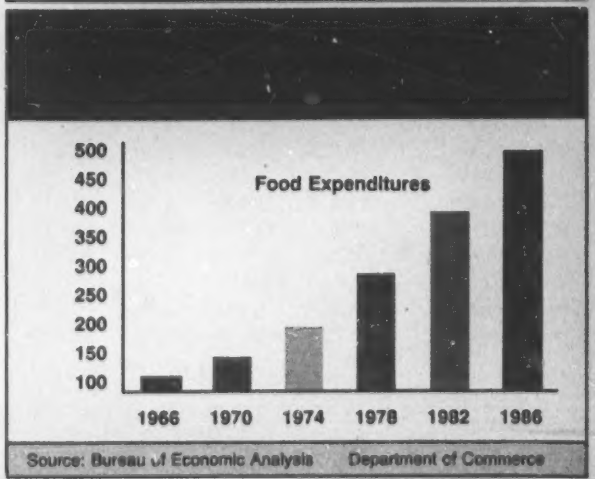
Why all the activity

One reason for all of the merger and acquisition activity is the desire to expand a company's share of the market. With the population growing at less than one percent per year, only about two million mouths are being added to the consuming public each year. Therefore, a logical way to make a company grow is to acquire wider distribution for your company's product line, or acquire a line not already a part of your operation.

Acquisition can be the best way to introduce your product through existing distribution lines. In essence, the food industry can buy larger market share rather than build it.



Source: Bureau of Economic Analysis U.S. Department of Commerce



Source: Bureau of Economic Analysis Department of Commerce

STATE OF THE FOOD INDUSTRY

As we look at the major trends, the number one trend is to leverage an existing trademark. It is quite obvious companies that wouldn't have dared to do that five or six years ago (such as Procter & Gamble, Coca-Cola) are doing it and are triggering more moves in that direction."

This in no surprise since brand names have become increasingly more important as American consumers choose trusted, known names for their food products over generics. This is a plus for the food companies because operating margins are significantly higher (estimated at up to 100 percent higher) on brand name products over generics.

Can the small processor survive?

There always has to be someone who pays the price for the success of another, and in the case of the return to brand names, the victim appears to be the small processor. Small food processors, who don't have the advertising clout of the major companies, often rely on less expensive off-brands to survive. Off-brands are dwindling in number on the food store shelf and in the freezer case as the battle of the name brands continues for space.

Al Clausi, senior vice president and chief research officer at General Foods, sees the decline of market share for the small processor as a reality. "This may be the shape of the future," he says. "We may end up with six or eight, or even ten, major companies."

Can the industry do it?

The question is: Can the food companies develop the new products consumers want? Is the creativity there? Are they willing to make the financial commitment?

According to Marketing Intelligence Service statistics, there were 3,389 new product introductions in 1986. Through mid-March of 1987 there were 601 introductions and the full year figure is projected to be 2,300.

The numbers for new introductions have been impressive over the last five to six years, but the question is raised about how many of these products are "new" products, and how many are line extensions. And what is the commitment of the food industry to providing new products? Are companies more committed to their bottom line?

"You could make an argument for that," says Edward Ogiba. In 1986 there was an "increase of 21 percent in terms of the number of new food products introduced. Yet as we traced innovation through our innovation index, the index for foods dropped to 13 percent from 14 percent the previous year. Despite a big jump in the number, we saw a decline in innovation."

Product	1984	1985	1986
Total Activity	583	658	724
By Industry Segment:			
Food Processors	89	95	114
Diversified Firms with Food Interests	48	39	57
Meat Packers	8	5	10
Poultry Processors	11	12	8
Soft Drink Bottlers	14	14	19
Wholesalers	36	36	35
Dairy Processors	13	21	9
Packaging Suppliers	25	26	29
Foreign Firms Buying U.S. Firms	40	55	59

Source: The Food Institute

Emphasizing the financial

"The general trend in business has been to emphasize the financial," says William Janis of the Department of Commerce. Compounding that trend is the tendency following a merger or acquisition to concentrate upon the financial end of the business as opposed to manufacturing and even marketing, he feels.

Frank Panyko of the Food Institute says mergers and acquisitions can have a negative effect on a company and its interest in producing new products. "People lose their jobs...the company gets lost in the paperwork and loses track of what their real purpose is in business."

"One expression I don't care if I ever hear again is 'lean and mean'," says Panyko. "Would you rather do business with someone who is lean and mean or someone who is fat and pleasant? When you see companies changing their philosophies radically, something is wrong there. Are they only looking at short-term goals and cost controls? Are they getting too cautious? Are the big companies afraid to take a chance?"

'Chasing our tail?'

Instead of taking a chance, Panyko sees the entrepreneurial spirit dwindling in major companies. "If the '70s was the 'me decade,' then the '80s is the 'me-too' decade in new product development," he says. Eventually, he maintains, you run out of products to copy or extend. "What are the people of the '90s going to copy? It is in the '90s that he foresees a resurgence of the entrepreneur. We will see a change," he says. "We need to alter the mindset. Bottom line is very important, but it isn't the sole important thing. We are chasing our tail right now."

Some industry activity in mergers and acquisitions Panyko describes as "a non-productive attempt at productivity." When Company A acquires Company B and sells off pieces, "they haven't created anything," he says, "they make money, but not a company and not a product."

Al Clausi of General Foods disagrees, in part. "I would think, on balance, if anything, {merger and acquisition activity} has stepped up new product activity. I think the only place where that might not apply is where there has been a hostile takeover or a portfolio buy-out where a private investor is buying a company to sell parts of it. Those have shown some signs of being disruptive."

But, says Clausi, "RJR Nabisco, Philip Morris, Campbell, Heinz acquiring other companies—that kind of con-

(Continued on page 70)

STATE OF THE FOOD INDUSTRY

(Continued from page 67)

solidation and merger has been positive for productivity and output."

What lies ahead?

Where are the opportunities for the food industry? Foreign markets, for one, and in added-value niche markets. It will be necessary for processors to get into regional markets because, says Herbert Baum, "it is in the regional demographics that we can see opportunities in ethnic foods, portion-controlled products and yuppie-type foods." Both Baum and Clausi of General Foods foresee the acquisition—as we noted above—of local regional suppliers of fresh products by major companies.

"I feel we are rapidly losing our advantage internationally in food processing," says Clausi, "just as we may have already lost a good deal of our advantage in commodity foods. It is going to take a different attitude on the part of the government, a more enlightened public, which government has to play a role in, and it also is going to take some catching up in technology. I don't see mergers as necessarily being contradictory to that. It may be the way we have to go. The regional companies cannot manage that."

Clausi further feels that what the food industry needs is government to make sure that there is a reasonable balance of competition around the world. "I think we need a more benevolent or sensitive set of American trade policies taking into consideration American rights around the world. We need a better attitude on the part of government to innovate," he says.

And the beat goes on

The food industry has proven itself to be steady and stable. Even when the economy starts to slow, consumers keep food spending relatively even. This means relative stability of profits, employment and capital expenditures.

"Modest pace" has been used to describe the growth of the economy in 1987. Real GNP is projected to increase just 2.8 percent from the fourth quarter of 1986 to the same period in 1987, according to Goldman Sachs & Co. The jury is out on whether the country will experience a recession. Some economists think a mild recession is coming, others feel it will not happen, but that economic performance will not be up to par.

Merger and acquisition activity will continue, perhaps not experiencing the megamergers of the past year or so, but the food industry will continue to expand through this type of activity. Food companies will continue to enhance the visibility of brand names through acquisition of new distribution channels and to expand their product lines through acquisition of other firms.

Some of the challenges of 1986 are the same for 1987. To find and win niche markets; to develop new products to meet demanding consumer needs; to continue to restructure for enhanced strength and performance. The marketplace will be a tougher arena in 1987, but past performance has shown the industry can pick up any gauntlet thrown. 1987 will be a year to see how well they can do it.

(Continued on page 72)

Rank	Company	Sales ($ mil.)*
1	Philip Morris/ General Foods	14,806.1
2	RJR/Nabisco	8,533.0
3	Beatrice Cos., Inc.	8,122.0
4	Dart & Kraft	7,100.0
5	Coca-Cola Co.	6,831.8
6	Anheuser-Busch	6,829.0
7	Occidental Petroleum-IBP, Inc.	6,510.0
8	PepsiCo	5,975.6
9	Sara Lee Co.	5,844.0
10	Nestle Holding Co.	5,496.3
11	Ralston Purina Co.	5,156.1
12	Archer Daniels Midland	5,110.0
13	Campbell Soup Co.	4,378.9
14	H.J. Heinz Co.	4,190.3
15	John LaBatt, Ltd.	3,581.4
16	Mars Inc.	3,514.0
17	Borden, Inc.	3,362.7
18	Conagra, Inc.	3,258.6
	General Mills	3,061.3
	United Brands	3,061.3
21	Pillsbury	3,030.0
22	Swift Independent	2,968.0
23	Quaker Oats	2,955.2
24	Kellogg, Co.	2,930.1
25	Procter & Gamble	2,923.0
26	Canada Packers	2,694.0
27	CPC International	2,522.9
28	Staley Continental	2,468.8
29	Hershey Foods	1,768.0
30	Joseph E. Seagrams	1,715.0
31	Stroh Brewery Co.	1,545.0
32	Castle & Cooke, Inc.	1,526.3
33	American Home Products	1,519.0
34	Agway, Inc.	1,504.0
35	George A. Hormel	1,502.2
36	Tyson Food, Inc.	1,535.7
37	Wilson Foods Corp.	1,454.2
38	Montfort of Colorado	1,410.0
39	IC Industries	1,379.6
40	International Multifoods	1,355.4
41	Mid America Dairymen	1,344.0
42	Land O'Lakes	1,327.0
43	George Weston, Ltd.	1,316.0
44	G. Heileman Brewing	1,304.0
45	The Federal Co.	1,281.8
46	Thomas J. Lipton	1,260.8
47	Central Soya Co.	1,233.0
48	Molson Co., Ltd.	1,128.0
49	GrandMet USA	1,059.8
50	Goldkist, Inc.	1,059.8
51	Dean Foods Co.	1,013.3
52	McKesson Corp.	1,000.1
53	Brown-Forman Corp.	971.9
54	Amstar Holdings, Inc.	958.5
55	Keebler Co.	939.5
56	American Finance Corp.	930.1
57	Prestige Foods	901.7
58	Adolph Coors, Inc.	864.2
59	Perdue, Inc.	848.1
60	McCormick & Co.	845.2
61	Foster Poultry Farms	825.1
62	Hanson Trust Ltd.	819.3
63	Southland Corp.	804.2
64	Idle Wild, Inc.	804.0
65	American Brands Inc.	756.8
66	Interstate Bakeries Corp.	708.5
67	Cedar Rapids Meat, Inc.	707.2
68	Flowers Industries Inc.	698.4
69	National Distillers & Chemical Co.	680.0
70	Lykes Brothers Inc.	662.4
71	Ocean Spray Cranberries, Inc.	636.0
72	Warner Lambert	626.0
73	Smithfield Foods	622.7
74	William Wrigley, Jr., Co.	620.3
75	Pabst Brewing Co.	613.1
76	Curtis Burns, Inc.	603.0
77	Kane Miller Corp.	602.7
78	General Cinema Corp.	599.3
79	Farmland Foods Corp.	599.0
80	Savannah Foods & Industries, Inc.	598.0
81	Thorn Apple Valley, Inc.	581.0
82	MEI Corp.	555.0
83	Schreiber Foods	547.6
84	California & Hawaiian Sugar Co.	537.0
85	Sun Diamond	537.0
86	Farmstead Foods	530.4
87	Cadbury-Schweppes	521.0
88	Riceland Foods	504.0
89	Superiors Brand Meats	504.0
90	Universal Foods Corp.	493.0
91	Tri-Valley Growers, Inc.	486.0
92	Forstmann Little & Co.	485.1
93	E&J Gallo Winery Inc.	450.0
94	Winn Enterprizes	473.2
95	American Bakeries, Inc.	454.4
96	J.R. Simplot, Inc.	445.8
97	C. Schmidt & Sons, Inc.	422.9
98	Peet Packing Co.	385.2
99	Moorman Mfg. Co.	367.7
100	Rich Products Corp.	366.7

* Food & Beverage Sales Only Source: Food Engineering

STATE OF THE FOOD INDUSTRY

JUICE AND SOFT DRINKS

(Continued from page 70)

The face of the U.S. soft drink industry changed dramatically in the past year or so as the major players continued to acquire new brands, consolidate and move into international markets. And a third force has appeared in the field. Hicks & Haas, a Dallas investment firm, has bought a major portion of the soft drink industry. H&H first bought a major interest in A&W Brands, Inc. (*A&W* root beer), then picked up *Dr Pepper* from Frostman-Little, and finally acquired both the domestic *Seven-Up* operation and *Squirt*. Then, just a few months ago, H&H went after Coke and Pepsico with *Cherry 7Up* and *Diet Cherry 7Up*.

Also, U.K.-based Cadbury-Schweppes bought both *Canada Dry* and *Sunkist* brands in 1986. The additions make Cadbury-Schweppes, which already franchises club soda, tonic water, ginger ale, etc. under the *Schweppes* label, the dominant player in the mixer category.

Currently, Coke owns about 40 percent of the soft drink market, Pepsico has 30 percent, the Seven-Up/Dr Pepper/A&W combine 13 percent, *Royal Crown* 5.5 percent, and Schweppes-Canada Dry about 5 percent. Some industry observers speculate that the Seven-Up/Dr Pepper/A&W line will merge with the Canada Dry/Sunkist/Schweppes line in the near future, since Cadbury-Schweppes already owns 30 percent of Dr Pepper. Also, Royal Crown – the other cola drink – may eventually join that family to give it a combined market share of about 23.5 percent.

During 1986, both Coca-Cola Co. and Pepsico purchased some of their largest franchised bottling operations and became major factors in soft drink production and distribution. Coke also established Coca-Cola Enterprises, Inc. to own and operate its bottling operations. The new subsidiary, with an annual turnover of $3 billion, will produce and distribute almost one-third of all *Coca-Cola* bottled and canned drinks in the U.S. Pepsico also will package and distribute over 30 percent of its U.S.-brand soft drinks. This vertical integration gives both Coke and Pepsi greater control over product marketing – especially pricing. Another marketing change intended to boost margins without harming volume was the introduction of new juice-added soft drinks. Pepsico broadened its *Slice* line, while Coca-Cola fortified its *Minute Maid* citrus-flavored sodas.

Through all of this, the value of bottled and canned soft drink shipments reached $20 billion in 1986, for an inflation-adjusted gain of 3.1 percent. Total soft drink consumption increased 3-5 percent, with per capita consumption rising 2-3 percent, to 46 gallons.

In 1987, soft drink consumption will increase slightly, retail prices will remain steady, and industry shipments should rise about 2.5 percent. Over the next 3-5 years, estimate observers, the soft drink industry should grow about 5 percent per year. And part of that growth will be due to a higher consumption rate by adults. Diet drinks and fruit-based drinks are likely to be a large part of this growth.

Fruit-flavored soft drinks, in fact, may become the major growth area for the next several years. In effect, the soft drink industry is already in the juice business and will continue to grow that segment with more product innovations and higher levels of juice.

Per capita consumption trends
(gallons)

Product	1981	1985
Soft drinks	38.3	44.5
Juices	6.7	6.4
Powdered drinks	6.0	6.0
Bottled water	1.9	5.2
Total consumed	52.9	62.1

Source: Commerce Department

According to a recent study by FIND/SVP, the market for fruit and vegetable juices, about $9.38 billion in 1985 retail sales, should top $11 billion by 1990. In the last five years alone, says the research firm, U.S. consumption of juice products has risen 36 percent. Factors included a growing consumer taste for exotic flavors (mango, papaya, kiwi, etc.), the popularity of aseptic packaging, and the growth of low-cost imported juice concentrates.

"The greatest gains will be made by the blended 100-percent juice segment – which should command 40 percent of the market by 1990 – and by drinks containing 70 percent or more of juice," says Peter Allen, FIND/SVP Manager of Market Research Reports. He adds that artificially sweetened powdered drink mixes, which appeal to diet-conscious adults, will see significant growth.

Consumer interest in health and fitness has been a major factor in the fruit juice industry's growth – boosting total juice sales about 16 percent since 1981. Now, FDA's approval of aspartame for juices and related items (such as frozen novelties) has created a low-calorie segment in the fruit juice market. TreeSweet Co., Houston, TX, was first in the market with an aspartame-sweetened juice – its *Tree-Sweet Lite*, a 50-percent juice product. Coke's *Minute Maid Light 'n Juicy* low-calorie fruit beverage, 10-15 percent juice in four flavors, hit the market a few months later. Procter & Gamble's *Citrus Hill* and Beatrice Co.'s *Tropicana* were expected to follow suit.

The fruit juice market is changing in other ways, too. Today, juice is an ingredient in wine coolers, soft drinks, tea, even bottled water. This change from a commodity to a food ingredient has come with the development of hybrid, or composite, drinks – not blends of similar items but of juice, water, wine, etc. Also, wineries, dairies and private labels have profited by turning excess capacity in their packing lines into juice production. Examples include juice-based products such as Canadaigua Wine's *Esprit de Vie* non-alcoholic sparkling grape and apple juices for adults, and juice-flavored drinks for kids such as Green Spot's *Pink Panther*. Furthermore, growing acceptance of aseptics, cans, and other single-serve containers has led to a greater involvement by soft-drink bottlers – acting as both packers and distributors of juice and juice-based products – especially for vending machine sales.

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STATE OF THE FOOD INDUSTRY

SEAFOOD

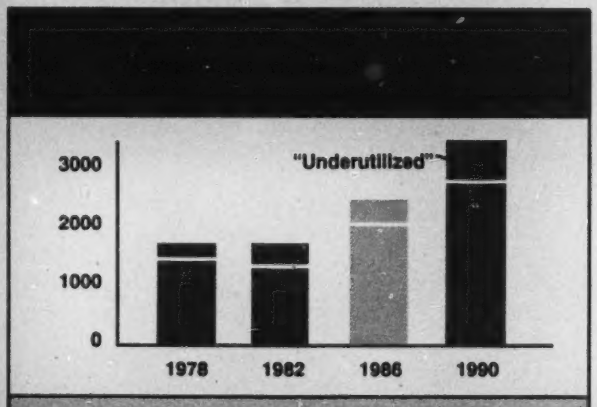
(Continued from page 72)

Americans are enjoying seafood to a greater extent than ever before—per capita consumption reached 15 pounds in 1986. This is the good news. The bad news is: There is a limited supply of popular seafood varieties such as cod, salmon, and haddock.

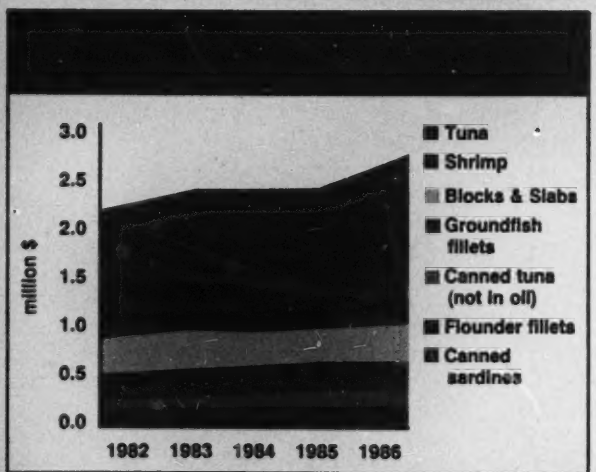
One problem is that the increased demand for seafood—especially popular varieties—is driving up prices. So far this hasn't been a detriment to sales. But John Block, director of the National Wholesale Grocers Association, warned those attending the Boston Seafood Show last March that if seafood prices get too high consumers will back away.

Despite the concerns with meeting consumer demand, the seafood industry has set a goal of 20 pounds per capita consumption by 1990. To meet this goal, the potential of underutilized fish species will need to be realized along with an increase in aquaculture, or fish farming.

"It is estimated that aquaculture will produce about 25 percent of the annual total world catch of fisheries by the year 2000—up from its present level of about 10 percent," said Colin E. Nash, Program Leader, Aquaculture Dev. & Coordination Program, FAO, Rome, Italy, at the Boston Seafood Show.



Source: Nilo Cachero, Council & Trade Commissioner, Canadian Consulate General, Boston



Source: Fisheries of the United States.

The salmon farming industry in Norway in 1986 produced a record breaking 45,000 tons, continued Nash. In shrimp farming, Continental Asia produced about 108,000 tons in 1984, while Ecuador's farmed production is now about 35,000 tons and at times greater than the natural harvest.

Right now, catfish, trout, crawfish, and oysters are the most commonly farmed seafood in this country, with most of the trout and about 95 percent of the catfish sold commercially in this country being farmed.

The demand for canned and cured seafood will continue on a slow growth pattern, Nilo Cachero, Council and Trade Commissioner, Canadian Consulate General, Boston, predicted. The growth areas will be in fresh and frozen seafoods.

To meet the goal of 20 pounds per capita, fresh/frozen seafood consumption will need to increase from 2,290 million pounds (edible weight) in 1986 to 3,400 million pounds in 1990, Cachero noted. Included would be an increased consumption of surimi from 120 million pounds in 1986 to 300 million pounds in 1990, and of underutilized species from 305 million pounds in 1986 to 640 million pounds in 1990. This would amount to an additional catch of 460,000 metric tons of underutilized fish.

Cachero said that 470,000 to 760,000 metric tons of catch are available between now and 1990. Examples of potential underutilized fish are: Redfish, turbot, witch flounder/plaice, silver hake, other hakes, and mackerel from the North Atlantic; hake-type icedevils/toothfish, rockcods, and southern blue whiting from southern oceans; orange rought, hoki, oreo dory, and snappers from the South Pacific; groupers from the Indian Ocean; and others.

The National Marine Fisheries Service is selecting people for a National Fish and Seafood Promotion Council which was legislated in the last Congress. This council is authorized to spend approximately $9 million over the next four years on generic seafood promotion programs. The council is also authorized to conduct market research.

Seafood still has a long way to go before reaching the promotion budgets of the beef and pork industries, pointed out Block. Yet the seafood industry does have a number of things in its favor:

1) People today more than ever before are looking for variety in their food—this includes seafood.

2) Two-thirds of the seafood consumed in this country is through food service—if people are taught how to prepare seafood, home consumption could increase.

3) Seafood fits in to the health conscious diets of many of today's consumers.

4) Ethnic foods are popular and many ethnic dishes contain seafood.

Block concluded by saying that although he is skeptical about reaching the 20 pounds per capita consumption by 1990, seafood consumption will continue to increase.

(Continued on next page)

STATE OF THE FOOD INDUSTRY

MILK AND DAIRY PRODUCTS

	1984	1985	1986	1987*
Natural cheeses	21.57	22.39	22.90	23.47
Processed cheese items	7.70	7.57	7.82	8.01
Fluid whole milk	122.72	120.08	121.36	–
Lowfat milk	80.80	82.07	84.77	–
Skim milk	11.93	12.11	12.51	–
Yogurt	3.58	3.92	4.05	4.45
Cottage cheese	4.06	4.02	4.02	–

*Estimates

SOURCE: USDA Economic Research Service, International Trade Administration, Find/SVP

(Continued from previous page)

This year's figures show a marketing metamorphosis taking place in the dairy industry—a change that is beginning to pay off and, say the experts, will continue to do so.

Thanks to nutritional advantages and convenience, lower-fat dairy products and calcium-rich cheese topped the list in terms of consumption and sales. But because of these same nutritional concerns, whole milk and butter didn't fare so well.

In 1986, the U.S. Department of Commerce recorded a 1.5 percent rise in total dairy shipments, with results ranging from a 3.5 percent increase for ice cream and frozen desserts to a 4.9 percent drop for condensed and evaporated milk.

Because input and packaging prices remained moderate in 1986, dairy product prices remained stable, resulting in a weaker demand for cheese substitutes. Only ice cream and canned milk cost more for the consumer.

• *Cheese.* Each American consumed 20 pounds of cheese in 1986, says Business Communications, Inc., and demand for cheese is predicted to grow by over 13 percent annually through 1995, thanks to an "increasing consumer awareness of the need for calcium in the diet," generic advertising, and continued assistance from Uncle Sam.

In 1986, says the Commerce Department, the United States government bought 19.2 percent of total American cheese output. Also, the U.S. Department of Agriculture has begun a dairy export-assistance program that will continue through 1989.

In 1986, per capita consumption of Italian cheeses gained 4.6 percent over 1985, while American types increased 2.2 percent. And, reversing a recent decline, demand for processed cheese products increased 3 percent. Says the Commerce Department: total per capita consumption of cottage cheese declined in 1986, yet lowfat cottage cheese consumption has increased by 3.3 percent annually from 1982 through 1986.

• *Ice cream.* Over the past six years, ice cream consumption rose 6.7 percent annually, due to demand for premium items. Apparently, however, this market growth will begin to slow, due to strong competition for the premium ice cream consumer's dollar among ice cream manufacturers.

• *Yogurt.* The $2-billion yogurt market grew 10 percent last year, and, predicts Find/SVP, will continue on this fast-track for the next few years, thanks to marketing efforts that are carving out new yogurt niches. Breakfast-oriented, children's, premium and dessert yogurts have all found success in today's marketplace.

"Yogurt marketers have launched aggressive marketing efforts to combat growing competition in this nearly $2-billion product category," reports Peter Allen, Find/SVP Manager of Published Studies. The research firm predicts four basic yogurt trends for the future: snacktime positioning; a slew of new products, including high-calcium and non-fat lines; new packaging innovations; and intense competition from some of the largest food manufacturers, including H.J. Heinz.

• *Butter/Margarine.* Constant dollar shipments for butter, says the Commerce Department, edged up .4 percent, as per capita consumption rose 2.5 percent, to 5.2 pounds. Why? Stable retail prices, generic advertising and "modest" success of butter-margarine blends.

Overall performance for butter, however, will slide again as margarine chomps out an even larger share of market. Per capita consumption of margarine rose 6.8 percent to 11.6 pounds in 1986, and, according to Business Communications, market share will more than double by 1995.

• *Milk.* Whole milk finished last in the dairy category this year; per capita consumption again fell 1.8 percent.

Lower-fat milks, however, took up this slack—plus some. Low-fat milk consumption increased 2.9 percent for 1986 over 1985, while skim milk consumption increased 3.3 percent.

This trend will continue, according to Business Communications, which predicts that low-fat milks will increase its fluid dairy market share from 39 to 54 percent by 1995—from $4.9-billion in 1986 to $8.85 billion. Says Business Communications: the entire low-fat dairy market is now worth $7.3 billion.

In sum, predicts Find/SVP, the total dairy market will increase to $17 billion in 1988, a 24 percent increase over 1984. Cheese sales will fare best, increasing 30 percent by 1988 over 1984. Americans, says Find/SVP, will consume $11-billion worth of cheese in 1988. Gains in Italian varieties will be especially prevalent.

And though a modest increase in the milk-consuming, 15-year-old and under population will spur a small rise in whole milk consumption, the fluid milk category will grow in shipments due primarily to a higher demand for skim and low fat milk, yogurt and cottage cheese.

Finally, butter consumption will continue to decline, says the Commerce Department, as the proportion of adults who have grown up using very little butter continues to increase.

In the dairy segment, yogurt, cheese and lowfat milk hold the most sales potential for tomorrow.

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STATE OF THE FOOD INDUSTRY

MEAT AND POULTRY

(Continued from page 76)

For the first time in history, U.S. per-capita consumption of poultry will surpass per-capita consumption of beef in 1987—and by a whopping 4 lbs. That's what USDA forecast last February. But will it really happen?

According to USDA, overall U.S. meat consumption hit a record 215 lbs. per capita in 1986 but will slide by nearly 2 lbs. this year. Americans ate more beef than expected last year but poultry continued to boom, reflecting consumer concerns about fat and cholesterol and also acceptance of the many fresh and frozen convenience products introduced by poultry packers. Per-capita consumption of poultry first surpassed per-capita pork consumption in 1982, and per-capita consumption of chicken alone surpassed that of pork for the first time in 1986. This year, USDA projects poultry outpacing beef by 4 lbs. per capita and chicken surpassing pork by 3.9 lbs.

But that was before "60 Minutes" shook consumer confidence in poultry safety on March 29th. Impact if any on consumer poultry purchases was uncertain at press time, but USDA's February forecast of 62.3 lbs. per capita for 1987 may prove high.

According to USDA, beef production rose 3 percent last year to 24.4 billion lbs. from 23.7 billion lbs. a year earlier, but will slide 6 to 8 percent to 22.7 billion lbs. in '87 as herds stabilize with the end of the Dairy Termination Program. Current cattle inventory, in fact, is the lowest since 1962. Reduced supply will be largely offset by reduced demand, but choice-fed steers will fetch a few dollars more than the 1986 average of $57.75 per cwt and retail prices may rise 3 to 5 percent.

Pork production slipped 4 percent in '86 to 14.2 billion lbs. from 14.8 billion a year earlier as producers trimmed hog herds to maintain profits after low returns in 1983-85, but should edge-up to 14.3 billion lbs. this year. Hog prices might decline an average of $1 per cwt as feed prices stay low, but retail prices will average about the same as '86.

Poultry production surged 6.2 percent in 1986 to 18.4 billion lbs. from 17.3 billion a year earlier and USDA forecasts another 7 percent leap in '87 to 19.7 billion lbs. Of this, 15.9 billion will be chicken (up from 15.1 billion in '86), 3.8 billion will be turkey (up from 3.3 billion).

According to the Department of Commerce, overall meat shipments rose 2.7 percent in '86 to $68 billion, but in constant dollars the gain was only 0.9 percent. Red meats accounted for 83 percent of shipments ($57.6 billion), down from 85 percent in 1982 but up a modest 0.2 percent from '85. Commerce projects red-meat shipments declining this year to $55.6 billion. Shipments by meat packers last year totaled $42.1 billion; shipments by meat processors (sausage, prepared meats) were $12.5 billion. Twenty-seven percent of fresh meat sales were posted by the top four packers: IBP (Occidental Petroleum), EXCEL (Cargill), Oscar Mayer (General Foods) and Swift Independent. In processed meats, 19 percent of sales were recorded by the top four firms: United Brands (John Morrell, Rath), Sara Lee (Jimmy Dean's, Kahn's, Hillshire), Hanson Trust (Hygrade) and Beatrice (Eckrich, Swift).

Red-meat imports were flat at $2.4 billion as Danish pork imports fell due to reduced export subsidies and appreciation of the kroner. Exports rose 17.4 percent to $2.4 billion as USDA purchased 90,000 metric tons of dairy-terminated beef for sale to Brazil. Beef exports to the EC reached EC import quotas for the first time since 1979.

Poultry shipments soared 15 percent last year (9 percent in constant dollars) to $13.3 billion and profits rose to pre-1980 levels (1.3-2 percent) due mainly to low feed costs. The top four poultry packers—Foster Poultry Farms, Holly Farms, Perdue and Tyson—posted 19 percent of sales. The next four—Gold Kist, Con Agra, Continental Grain and Beatrice—recorded 10 percent. Poultry exports rose for the first time in five years to $328.7 million, with Japan and Hong Kong taking 48 percent.

Some trends: MRCA Information Services reports that processed meats labeled "lean," "low-fat" and "low-calorie" zoomed 66 percent in 1985 to 7.7 percent of sales in the processed-meats category. "Low-salt" lunchmeats gained 33 percent. Red-meat association efforts to address consumer concerns about fat, cholesterol and convenience include the National Livestock & Meat Board's "Nutri-Facts" point-of-purchase program and the National Pork Producers Council campaign which positions pork as "the other white meat," but efforts by individual packers were isolated. Most innovative: Kroger Co., which first initiated a 1/4-inch trim program at store level, then introduced trimmed, pre-seared microwaveable vacuum-packaged meats in several markets, and on May 1 of this year introduced Ultrabeef in Houston. Ultrabeef, developed jointly by Chesapeake Genetics and Ultrabeef Ranches and introduced earlier this year in Eastern markets by Giant Foods and Mayfair Supermarkets, combines genetic selection, embryo-transplant and computerized feed-formula technologies to produce beef with up to 46 percent less fat (120 calories per 3-oz. serving) than typical beef on far less feed: Animals reach market weight in only 13-14 months compared to the typical 20-24 months. New packaging technologies such as controlled-atmosphere packaging might shift retail meat cutting more toward packer level for economies of scale and branded beef/pork cuts to compete with branded poultry products. (EXCEL is already marketing branded, vacuum-packaged beef cuts.) Intense brand competition will shake-out the poultry industry to fewer but bigger packers.

Year	Beef	Pork	Chicken	Turkey	Veal	Lamb
1984	78.5	61.7	55.6	11.4	1.8	1.5
1985	79.1	62.1	58.0	12.1	1.8	1.5
1986	80.6	58.6	59.9	13.5	1.9	1.4
1987 (Est)	73.9	58.4	62.3	15.6	1.6	1.4

Source: USDA

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Insert 52 or see FEM, p. 31→

STATE OF THE FOOD INDUSTRY

ALCOHOLIC BEVERAGES

(Continued from page 78)

The alcoholic beverage industry is still in a slump, but new products and a trend to lighter drinks may pull it out. The biggest problems, however, may be negative publicity and price. Concerns about drunken driving and health (does alcohol cause cancer?) have put a crimp in per capita consumption, for example. And worse times may be coming in the form of a new Federal excise tax increase.

In 1986, distilled spirits consumption fell 1-3 percent overall, and about 3 percent per capita. Beer, spurred by a strong demand for imports, gained slightly in dollar volume but remained at about 24 gallons per capita. Wine consumption, thanks to wine coolers, rose 3-4 percent, with a per capita consumption of almost 2.5 gallons. Overall, the value of alcoholic beverage industry shipments reached $18.6 billion last year, up 1.6 percent from 1985.

In general, the brewing industry had a good year in 1986. Domestically, Anheuser-Busch, Miller and Coors showed volume gains, while Heileman (down 1.0 percent), Stroh (down 2.5 percent) and Pabst (down a whopping 15-20 percent) were losers. A-B, which owns 38 percent of the market, gained about 1 percent and Miller was up about 4 percent. And, thanks to geographic expansion and new-product rollouts, Coors' shipments rose about 3.4 percent.

U.S. beers began to acquire an international flavor, too. Swan Brewery Co., Ltd., Australia, bought the Pittsburgh Brewing Co. (*Iron City*, etc.). And Pabst Brewery Co. entered a joint-venture with the Chinese to serve Mainland China and Hong Kong. Miller Brewing also expanded overseas, licensing Britain's Courage Ltd. to market *Miller Lite*. A-B, which already has a foothold in the U.K., licensed production of *Budweiser* in Ireland (via Guiness Ireland Ltd.) and Denmark (United Breweries).

The U.S. wine industry picked up in 1986 when the market for wine coolers jumped 60 percent, reaching 61 million cases. Sales probably exceeded $1.2 billion at retail compared to $750 million in 1985. Domestic premium wines also did well, due to perceptions of improved quality and increased prices for most imports. In the first half of 1986, total wine gallonage imported from all sources decreased 21 percent, while the average price per gallon rose 30 percent. Less expensive wines suffered, though, while the more expensive varieties gained in volume and price.

In the $1.7-billion wine cooler market, Gallo, Brown-Forman, Canadaigua and Seagram together control about 75 percent of total sales. Brown-Forman's *California Cooler*, the leading brand since 1980, has been overtaken by Gallo's *Bartles & Jaymes*. These two brands should dominate the market for some time, with many smaller-volume brands fading. Overall, the wine cooler category should grow 12-15 percent a year over the next five years. But fewer brands will share this expanding market.

There were few bright spots for distillers in 1986. Liquor consumption remained low, the trend away from whiskeys continued, and even the demand for gin and vodka softened. Some firms, following a consumer trend to lighter, milder and less alcoholic drinks, have introduced light and sweet drinks with considerable success. One example is low-alcohol cordials and liqueurs flavored with peach, apricot, peppermint, coffee, cinnamon, etc. This new generation of cordials already accounts for 3 percent of the U.S. spirits market and should grow in the years ahead.

Premixed packaged drinks such as martinis and manhattans are popular, too. Now, according to an "insider" report in *Ingredient Strategies*, Brown-Forman is testing a pre-mixed mint julep. And Glenmore Distilleries will soon unveil two tequila-oriented drinks—*Chi Chi* premixed margarita and a margarita cooler called *Tequila Cooler*.

If the proposed excise tax doesn't come, the spirits industry may stabilize in 1987, though the real value of shipments will continue to decline. Beer consumption should increase a bit, imports' growth will slow, and domestic brewers will continue their battle for market share. Wine makers will likely do best of all. Demand for wine coolers should increase in 1987, but at a slower rate. Also, the weaker dollar will continue to hold back some imports.

Long term, the picture is glum. Consumers are switching away from alcoholic drinks and total consumption should decline for several more years. Thus, all alcoholic beverage producers will be fighting for a larger share of a smaller market. In the face of this no-growth domestic market, alcoholic beverage producers will step up their export sales efforts. This campaign should pay off as trade barriers are reduced and the economies of lesser developed countries improve. Adjusted for inflation, the value of alcoholic beverage industry shipments should increase at an average annual rate of 0.8-1.1 percent through 1991.

(Continued on page 85)

Value of shipments (in millions of dollars)

	1984	1985	Change	1986(e)	Change
Malt beverages	11,868	12,129	+2.2%	12,420	+2.4%
Wines, brandies	2,695	2,874	+6.6%	3,090	+7.5
Distilled liquor	3,405	3,289	-3.4%	3,076	-6.5%
Total value	17,968	18,292	+1.8%	18,586	+1.6%

Source: Commerce Department

Per capita consumption trends (gallons)

Product	1981	1985
Beer	24.7	23.8
Wine	2.3	2.3
Spirits	2.0	1.8
Total consumed	29.0	28.1

Source: Commerce Department

←Insert 55 or see FEM, p. 31

STATE OF THE FOOD INDUSTRY

BREAKFAST CEREALS

(Continued from page 83)

Ready-to-eat cereals show the greatest growth, but the entire cereal industry is "hot." For an industry vilified just a few years ago by certain "consumer advocates" as a purveyor of "sugar-laden junk foods," the cereal industry has staged an amazing comeback in consumer perceptions as a supplier of healthy and nutritious foods. With this perception added to the traditional convenience of ready-to-eat and "instant" hot cereals, breakfast cereals today fit demographic trends better than ever.

Cost trends, too, favored cereal producers last year, according to the Department of Commerce. Ingredient costs fell 4.7 percent (only dried fruits were up) and energy costs plunged 19.1 percent. Labor costs, however, rose 5 percent. And cereal producers were able to boost prices by an average of 6.1 percent last year, while retail prices rose 5 percent.

Results of favorable cost and marketing trends:

- Per-capita consumption of breakfast cereals soared 5.3 percent—from 14.2 to 15 lbs.—in 1986 as compared to 1985, says Commerce. After a slump in recessionary 1982, per-capita cereal consumption rebounded over the past four years with a hefty 19 percent gain.
- Value of industry shipments (all products from plants producing mainly cereal) grew 7 percent (3.9 percent in constant dollars), from $5.97 billion in '85 to $6.39 billion last year. Commerce forecasts $6.79 billion for 1987.
- Value of product shipments (cereal from all plants regardless of primary classification) grew from $4.52 billion in '85 to $4.84 billion in '86.
- Value of product shipments in the ready-to-eat segment scored the highest gain, said Commerce, jumping from $4.04 billion in '85 to $4.32 billion last year. According to Quaker Oats Co., industry sales in the ready-to-eat segment grew 12 percent in fiscal '86 (ended June 30) to $4.7 billion, "making it the second-largest grocery category in the U.S."
- Value of hot-cereal shipments, sparked by new instant varieties, jumped from $480 million in '85 to $514 million last year.
- New-product introductions in the cereal category jumped from 60 in 1985 to 71 in 1986, according to Marketing Intelligence Service (*FE* April, 1987). Adds William V. Janis of the Commerce Department, "Manufacturers of breakfast cereals tried to appeal to many market niches" with 194 varieties at the wholesale level in 1985, up from 181 in '84. Ready-to-eat types accounted for 151, hot cereals for 42.

"Fiber wars" and "the battle of the brans" intensified as manufacturers competed for the adult ready-to-eat cereal dollar with mixed-grain, high-fiber and fruit/nut varieties projecting a "healthy" image. According to Kellogg, who startled the entire food industry in 1984 with its All Bran health-claim campaign linking fiber to reduced cancer risk, "Americans' awareness of the health benefits from a high-fiber, low-fat diet continued to stimulate sales" during 1986 of All Bran, Bran Flakes, Bran Buds, Raisin Bran and Cracklin' Oat Bran. New from Kellogg in 1986: Three U.S. line extensions—aspartame-sweetened Extra Fiber All Bran, Nutri-Grain Almond Raisin and Apple Cinnamon Squares—plus Just Right All Grain in Canada. General Mills added Raisin Nut Bran to its earlier introductions of Fiber One and Bran Muffin Crisp (the latter "did not meet objectives," said GM). General Foods "increased or maintained market share" with Post Natural Raisin Bran, Fruit & Fibre and Grape Nuts. Quaker, conceding that intense competition adversely affected volume of Life and 100% Natural Cereal, unveiled two flavors of Oh's, "the first all-family cereal." Ralston extended its Chex line with two new entries; Nabisco rolled out Shredded Wheat 'n Bran nationally and Fruit Wheats regionally.

Categories	1981	1982	1983	1984	1985[1]	1986[1]
Total Ready to eat	12.73	12.59	12.95	13.59	14.23	14.98
	9.50	9.41	9.71	10.20	10.68	11.26
Corn	3.02	3.04	3.10	3.25	3.40	3.56
Wheat	3.19	3.10	3.17	3.31	3.47	3.63
Rice	1.21	1.19	1.21	1.27	1.33	1.39
All other except Baby cereal	2.08	2.08	2.23	2.37	2.48	2.68
Hot cereal	3.23	3.18	3.24	3.39	3.55	3.72

[1] Estimated by the International Trade Administration (ITA)
SOURCE: U.S. Department of Commerce, Bureau of the Census and ITA

But cereal producers didn't neglect the children's segment in the battle for supermarket shelf space. New in 1986: Rocky Road, Circus Fun, S'Mores Crunch and aspartame-sweetened Trix from General Mills; Ghost busters, Nerds, G.I. Joe and aspartame-sweetened Cabbage Patch Kids from Ralston Purina; aspartame-sweetened Alfa Bits from General Foods. Meanwhile, Quaker boosted volume of Cap'n Crunch by 17 percent.

In the hot segment, where Quaker holds a commanding 67 percent market share, Quaker extended its Instant Oatmeal, Apples, Raisins and Walnuts line and introduced Fruit & Cream instant oatmeal in four flavors. Quaker further tested its own health-claim ads relating oat bran to reduced cholesterol levels.

According to Business Trends Analysts, Kellogg's leads the cereal industry with a 1985 market share of 42 percent, followed by General Mills (20 percent), General Foods (17 percent), Quaker (8 percent), Ralston Purina (7 percent) and Nabisco (4 percent).

Outlook: Breakfast cereal shipments will rise 2.6 percent, per-capita consumption by 2.9 percent in 1987, says Commerce. Inflation-adjusted shipments should gain 3.3 percent, per-capita consumption 2.4 percent per year through 1991.

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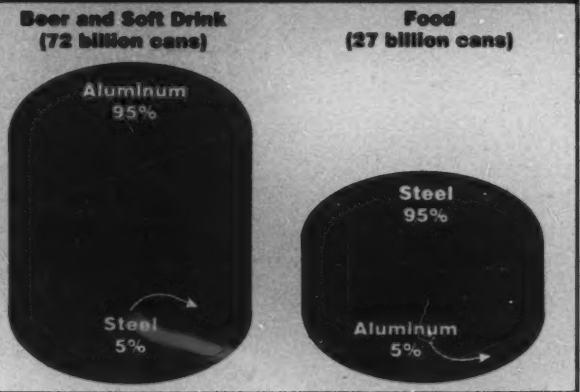
STATE OF THE FOOD INDUSTRY

CANNED FOODS

Industry Data	1984	1985	1986[2]	1987[3]	Percent change 84-85	85-86	86-87
Value of shipments	21,756	22,351	22,397	—	2.7	0.2	—
Value of shipments, 1982 $	20,179	20,490	20,692	2,002	1.5	1.0	1.5
Total employment (000)	128	124	127	127	-3.1	2.7	-0.3
Trade Data							
Value of imports	1,708	2,062	1,716	—	20.7	-16.8	—
Value of exports	558	533	551	—	-4.6	3.4	—

[1] SIC 2032, 2033, 2034, 2035 #
[2] Estimated
[3] Forecast

Source: U.S. Dept of Commerce



Source: Alcoa

(Continued from page 85)

Consumption of canned foods continues to slide in favor of fresh and frozen fruits and vegetables. According to the Dept. of Commerce, the value of shipments in the canned-foods sector of the processed fruits/vegetables/specialties category (SIC 2032-35, 2037-38) fell to 62 percent in 1986 from 65 percent four years earlier. Production value was flat at $22.4 billion, up 1 percent in constant dollars. The sectors sustaining growth in the canned-foods industry are soups, sauces, ethnic foods and aseptic juices.

According to USDA, per-capita utilization of vegetables for canning fell to 82.2 lbs. (farm-weight basis) in 1985 after peaking at 90.4 lbs. a year earlier, while per-capita use of fresh vegetables grew steadily from 81.3 lbs. in 1980 to 91.1 lbs. in 1985 and for freezing from from 16.6 lbs. in '80 to 17.6 lbs. in '85. Over the past 10 years, per-capita canning use of vegetables fell at a rate of 2 percent per year "primarily due to consumers' unpopular attitudes about canning vegetables' nutritional value," although continuing popularity of canned tomato products helped soften this slide, said USDA Economist Shannon Reid Hamm at the agency's 1987 Outlook Conference. Because of carryover from 1985, fresh-vegetable production fell 2-3 percent in 1986 and imports of 10 major fresh vegetables—which had grown steadily for six years to 1.5 billion lbs. in 1985—fell 20 percent last year.

The same trends are apparent in canned fruits: "Consumers are now more health and nutrition conscious and demand less sugar in any kind of food," said USDA Economist Ben W. Huang at the Outlook Conference. "Thus, sales of canned fruits traditionally packed in heavy syrup have declined." Although per-capita consumption of fruit (fresh-weight basis) grew from 199.2 lbs. in 1982 to 213.6 lbs. in 1986, per-capita consumption of canned fruits fell from 21.5 lbs. to 16 lbs. as per-capita consumption of fresh fruits rose from 86.7 to 92.5 lbs. over the same period. Per-capita consumption of processed fruits soared from 105.9 lbs. in 1984 to 121.1 lbs. in 1986—up 14 percent in just two years—but the gain was mainly in frozen products, especially juices.

Prepared soup shipments, after plateauing in the late '70s and early '80s, have grown 4-6 percent per year since 1984, Commerce reports. Canned soups have always been convenience foods and fit today's demographics better than ever, while microwaveable soups in aseptic and retortable plastic packaging will further boost this trend.

About 50 packers introduced aseptically-packaged fruit juice and juice drinks between 1981 and 1986, says Commerce, and per-capita consumption of "boxed" juices last year reached 1/2-gal., or about 4 percent of total juice/juice-drink sales. After annual sales gains of 20 percent 1981-85, aseptic juices grew 4-6 percent last year.

Meanwhile, canners and their suppliers are applying new technologies in an effort to recapture lost ground. American Can's *Salad Bar Fresh* process (*FE* April '85; Aug. '86) was cleared as GRAS by FDA effective Oct. 24, 1986 and is currently licensed to 38 canners. Continental Can's *Veri-Green* process, introduced commercially in 1983, is now used by six canners to pack between 20 and 30 brands of green beans and spinach. Continental's *Veri-Fresh* flame-sterilization process, which cut energy, material and distribution costs for canned fruits and vegetables in 1984 cannery pilot tests, has yet to be commercialized, however, because of high capital-investment costs required. Easy-open (tear-top) aluminum cans, formerly limited in food applications to small sizes because of pressure limitations on the closure, are now available in any size. Alcoa introduced easy-open aluminum can closures made of a new alloy combining lighter gauge with greater strength to withstand "the full range of processing equipment, from still retorts to hydrostatic and rotary cookers." Aluminum cans last year accounted for 95 percent of canned beer and soft-drink shipments but only 5 percent of canned-food shipments.

(Continued on page 90)

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STATE OF THE FOOD INDUSTRY

FROZEN FOODS

(Continued from page 87)

Frozen foods and the 1980s lifestyle have been called a natural team. In introducing New Traditions—a line of frozen, pre-broiled and browned meats to frozen breakfast sandwiches developed specifically for microwave preparation—Hormel keyed in on lifestyle trends of the '80s which are affecting the foods purchased by American consumers. For example:

- More working women and dual income families.
- Varied working schedules, which often lead husbands and wives to split daily child care times and chores.
- An increase in the number of households and people living alone.
- More choices for children with regard to how they spend their time.
- A higher priority on spare time and together time—what little of it can be found.

Hormel also listed how these trends have caused dramatic changes in the how American families eat. These changes are:

- Fragmented meals, with family members often eating at different times.
- More family members involved in preparing meals.
- Less time available for planning and preparing meals, and so, searching for ways to reduce and manage meal preparation time.
- A surge in the use of microwave ovens, which often cuts food preparation time by one fourth.
- More demand for high quality convenience foods, particularly everyday foods.

In frozen foods we've seen major growth in Mexican dishes, Oriental dinners, and vegetables without sauces, reports SAMI (see accompanying chart). Weight Watchers' new line of frozen Mexican entrees and Campbell Soup's new frozen Oriental dinner line are, in part, responsible for the recent growth in the first two areas, explains Alan B. Miller, Jr. of SAMI.

In the area of Ethnic foods, we are seeing a wider range of varieties being offered to satisfy American's desire for more variety in their foods. For example, Ruiz Food Products, Inc., Tulare, CA, includes Steak Fajita and Chicken Fajita in a line of frozen Mexican dinners introduced this past year.

The "health craze" is also having an effect on the types of frozen foods being sold. This can be seen by examining frozen vegetable sales. The growth in sales of frozen vegetables without sauce is most likely cannibalizing sales of frozen vegetables with cheese or butter sauce, Miller notes. But overall per capita frozen vegetable use in 1983-85 was up 12 percent from the 1974-75 period, according to USDA. That compares to an 18 percent increase in fresh vegetable usage in that time span and a 2 percent decline in canned vegetable use.

In the fruit category though, frozen consumption is gaining faster than either fresh or canned—both of which have remained relatively flat over the past few years according to USDA reports. But frozen strawberry imports from Mexico are increasing. Fifty million pounds of Mexican frozen strawberries were imported into this country between the beginning of the year and April 12 as compared to 19.4 million pounds for the same period a year earlier.

"The growing wave of calorie consciousness in America has made household words out of *lean, light, low*, and *reduced*," points out the Calorie Control Council. In other words, more than 78 million adult American are consuming low-calorie foods, up from 42 million in 1978. And frozen food processors have jumped on the low calorie bandwagon.

Last year, The All American Gourmet Company, Orange, CA, expanded its Budget Gourmet Slim Line entrees—all under 300 calories—into national distribution. In addition, three new Classic Lite frozen dinners from Armour Frozen Food Company and six Le Menu Light Style frozen dinners from Campbell Soup Company were also introduced into national distribution last year.

Overall, 77.4 percent of American consumers are buying either more or the same amount of frozen foods compared to three years ago, reports the Eastern Frosted Foods Association (EFFA). And this trend is expected to continue. For example, the market for frozen entrees and dinners, now $4.5 billion, is expected to reach $18.5 billion by 1994.

Another factor affecting the frozen entrees sales is who is purchasing them. Men now purchase 43 percent of all frozen complete dinners—a higher percentage than for any other packaged food product—and 40 percent of all frozen main dishes, according to a 1985 Purchasing Study.

Frozen foods are available to the consumer in three categories: To be eaten frozen (e.g., ice cream); thaw-and-serve (e.g., bagels, frozen fruit, desserts); and heat-and-serve (e.g., boil-in-bag, to be cooked in microwave or conventional oven, etc.). The typical supermarket stocks between 1,000 and 1,200 frozen food items, reports EFFA.

Offering convenience and a wide selection, frozen foods will continue to be an important of Americans' diets.

Consumption of selected frozen foods (millions)

	1986	change from '85	change one year earlier
Meat, frozen	$159	-9.6%	1.0%
Fish, frozen	$888	4.0%	-0.4%
Mexican dishes	$200	20.5%	29.9%
Oriental dishes	$275	-13.0%	-13.3%
Mexican dinners	$ 89	9.7%	4.1%
Oriental dinners	$ 56	16.7%	52.6%
Vegetables, w/ butter sauce	$ 73	-5.0%	-2.1%
Vegetables, w/ cheese sauce	$ 78	-13.1%	-3.9%
Vegetables w/o sauce	$ 92	14.4%	17.7%
International vegetables	$118	9.7%	-3.2%

Source: SAMI, New York, NY.

STATE OF THE FOOD INDUSTRY

SNACK FOODS

Snack food performance has been pleasantly consistent over the past few years—and there's no end in sight. Snack foods of all kinds—especially newly-developed, "wholesome" snacks—are growing.

According to Business Trends Analysts (BTA), overall 1986 snack food sales rose 8.1 percent over 1985, resulting in a total market worth of $26.8 billion. And, reports the research firm, snack food sales are expected to expand by 7.2 percent annually over the next decade, with sales topping $57.7 billion by 1996.

Processors have responded successfully to the mature demands of the expanding 35+ age group by offering higher quality, nutritious, gourmet, and/or premium snacks, such as microwave popcorn, fruit snacks, and nuts. "Snack food manufacturers have successfully redesigned their product and promotional strategies to satisfy the changing consumer pool, thus setting the stage for continued strong growth in the U.S. market for snack foods," comments BTA.

The overall wholesome snacks market grew 9 percent to over $600-million in 1986, says snack food processor Quaker Oats, "driven by a 35 percent increase in the fruit-based snacks segment." Quaker is heavily marketing its fruit snacks and rice cakes as wholesome snacks. In 1986, the entire rice-cake market totaled $20 million.

• *Dried fruit snacks.* Selling Areas Marketing Intelligence (SAMI) reports: dried fruit snack sales reached $264 million in 1986. Bite-size dried fruit snacks designed for children represent 44 percent of this market. General Mills is the leader in this category with a 61.4 percent share of market. And in 1986, General Mills' unit volume for fruit snacks increased 30 percent.

• *Popcorn.* Per capita consumption of popcorn is now pegged at 2.4 pounds. Adds SAMI: bags of popcorn are decreasing in sales, but microwave popcorn sales grew 5.7 percent in the last quarter of 1986 alone. Microwave popcorn, which now accounts for 25 percent of the total popcorn market and is worth $190 million in retail sales, is a hot item. "While this market is relatively small today, it is expected to show strong growth as more households obtain microwave ovens," comments General Mills.

• *Nuts.* The U.S. retail market for nuts has been increasing by about 6 percent/year and is expected to top $1.4-billion by 1990. The retail peanut market is worth about $500 million; the eight most important nuts in terms of annual tonnage include almonds, filberts (hazelnuts), cashews, walnuts, pecans, Brazil nuts, pistachios and macadamias, says R.J. Reynolds.

"There are several reasons for the growing popularity of nuts," says Eric Shullman, director of marketing for Reynolds' Planters Nuts Division. One of the most important is their nutritiousness. "Other reasons include strong population growth in the highest consumption group (35 to 55 year olds) and a continuing breakdown in main meal eating occasions."

"Grazing," or eating between meals, has, in fact, fed growth of the entire snack segment. According to SAMI, sales volume for saity snacks was $5-billion in 1986, with potato chips accounting for over half of this volume. Potato chip sales, says the research firm, will continue to rise as specialty items (new flavors, potato skins, etc.) become more popular. Kettle-cooked potato chips now control 5 percent of the potato chip market, says SAMI, and this market share is expected to double by the end of 1987.

Corn and tortilla chips are second to potato chips in the salty snack segment. These chips, however, seem to have reached market maturity, as reflected in 1985 figures (see 1986 State of the Industry report).

Typically a highly regional product, pretzels are holding relatively steady. According to the United States Department of Commerce, per capita consumption of pretzels decreased very slightly over the past three years: 1984 consumption was .79 pounds; 1985, .78 pounds; 1986, .77 pounds. Popular pretzel consumption areas of the country include the Northeast, particularly Pennsylvania, and the Midwest.

The most disappointing performer in the snack food segment in 1986: granola bars. "Cereal meal bars" declined after a smashing annual growth record of 20 percent over the past decade. Sales in this $439-million segment, which is now mature, fell 24 percent in the last quarter of 1986 alone, says SAMI.

Quaker Oats, the leader in this segment, admits: "These products require fairly significant underwriting . . . volume was down 15 percent in 1986 over 1985." But once competitive new product activity slows in the granola market, this sales decline will level off. Those companies that can survive the granola shakeout will again profit from this snack category.

The overall growth of the snack food market, however, can be attributed to the busier lifestyles of Americans—and processors' ability to take advantage of the expanding adult population.

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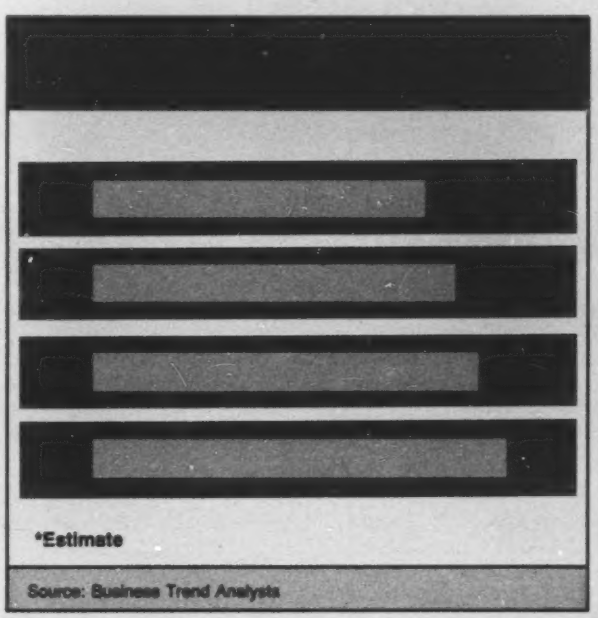


STATE OF THE FOOD INDUSTRY

BAKERY PRODUCTS

(Continued from previous page)

It has been a year of good news for the bakery industry, with promising consumption increases in both white bread and crackers.

After a downward trend in consumption of white bread, which accounts for approximately 50 percent of bread consumed, 1986 saw an encouraging increase. (From 1967 to 1982 white bread consumption dipped 30 percent, according to industry sources.) But it's getting better.

In 1981 per capita consumption of white bread was at 29.3 pounds. In 1982 it dropped to 26.6 pounds and has slowly crept upwards since that time to reach an estimated 27.65 pounds per person in 1986. "When you look at the growth in some areas of the industry, that is not significant," says Judith Striegel of Rich Products, "but, back as far as 1963 and through the '60s and '70s, it was a downward trend, and to see it coming back up, that *is* significant."

Product shipments of white bread were valued at $2.6 billion in 1982 and have risen to $3.1 billion for 1986. Look for a 1.9 percent annual increase in shipments through 1991, says the Department of Commerce.

White breads have added to their appeal by increasing fiber content, an important consideration to today's consumers, and some have also increased calcium levels. The fact that the size of the 65-and-older segment of the population continues to grow has helped fuel the upswing in consumption.

In fact, the older and health-conscious younger population's demand for breads rich in fiber have spurred added fiber in all types of variety breads, and some new high-fiber breads have been introduced. Pepperidge Farm's line of *Five Star Fibre Bread* is one.

The Department of Commerce estimates that per capita consumption of variety bread increased 12.4 percent from 1982 through 1986. Whole wheat and cracked wheat took top honors, with consumption up 17 percent from 1982 to 1986.

Cookies and crackers also racked up double digit figures from 1982 to 1986. The nominal value of 1982-1986 shipments grew to 10.1 percent annually. Shipments of cookies increased 8.6 percent per year and crackers rose 11.9 percent per year during that time period. Actual figures for 1986 were somewhat disappointing in the cookie segment, with per capita consumption declining 2.5 percent. Shipments increased only 3.8 percent during that time. The slower growth of the cookie figure may reflect disappointing sales in the soft cookie segment of the market.

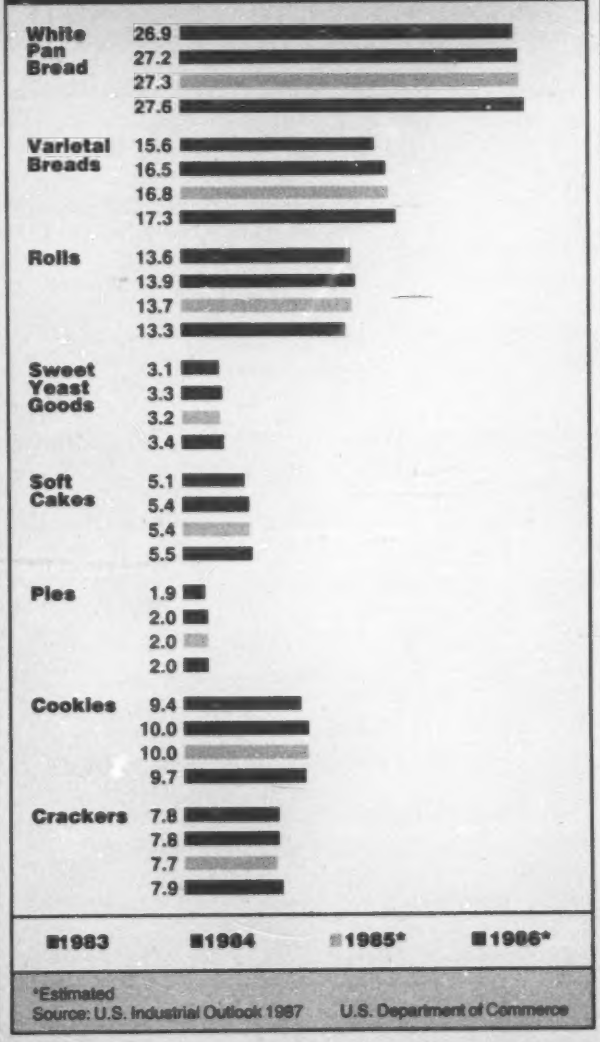
Crackers, following a 3.3 percent drop in 1985, rose a remarkable 24 percent in 1986, according to the 1987 U.S. Industrial Outlook. Per capita consumption rose 2.7 percent. Industry sources concurred with those figures. Contributing to the growth were low-salt varieties.

Once again, croissants, bagels and muffins performed well in the marketplace. The bagel market, estimated at $350 million, has an annual growth potential of 8 to 10 percent, according to industry sources.

Shipments of "bread and related products...may rise only 1.2 percent after adjustment for inflation," in 1987, according to the Industrial Outlook; but "inflation adjusted shipments of cookies and crackers will probably increase 2.8 percent." At the same time, the forecast predicts a per capita decline in consumption of cookies to about 9.5 pounds while consumption of crackers will rise to 8.4 pounds.

A significant factor in sales of bakery products has been the growth of in-store "scratch" or "bake-off" bakeries. Pepperidge Farm refers to in-store bakeries as "major competition" and rightly so. An A.C. Nielsen survey of chain food stores revealed that 60 percent of those stores with $2 million and over annual volume had in-store bakeries of some kind. These fresh-baked products appeal to the quality-conscious, upscale shopper. Although a major portion of bakery foods are still purchased off the shelf, the in-store bakery is notable competition.

Per Capita Consumption of Baked Goods (in pounds)

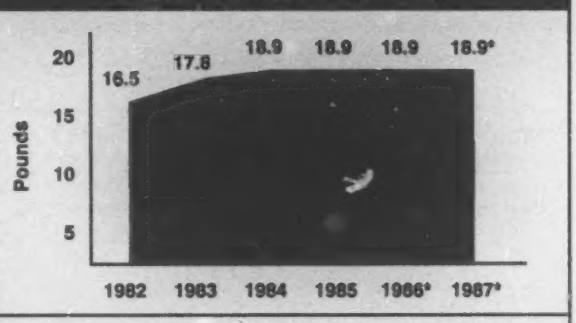


*Estimated
Source: U.S. Industrial Outlook 1987 U.S. Department of Commerce

STATE OF THE FOOD INDUSTRY

CONFECTIONS & DESSERTS

Per Capita Consumption of Candy & Chocolate (in pounds)



*Estimated

Source: DAY, Inc., Chocolate Marketing, Inc., Godiva Chocolatier, U.S. Department of Commerce

The confections industry fared well in 1986. Product shipments of all types of candy reached an estimated $7.4 billion, up about 4 percent from the 1985 level of $7.1 billion, says the Department of Commerce. Industry sources agree.

The confections industry is poised, ready for future growth. The debate is whether the growth potential is there. Philip Kimball of the National Confectioner's Association points out that "per capita consumption has increased dramatically during the last five years, from 16.1 pounds to 18.9, but has shown a leveling off most recently." Kimball says "many manufacturers are viewing this as a breathing spell following a period of very rapid growth. You have to keep this in perspective."

The Department of Commerce does not agree and describes the outlook for confections as "not especially rosy," forecasting a decline in value of 3.5 percent in 1987 with total candy consumption expected to increase only a modest 1 to 2 percent. Per capita consumption will likely remain where it is, says Commerce. Look for increased market and new product development activities to try to spur consumption, says the U.S. Industrial Outlook, and also for diversification and acquisition within the industry to increase market share.

Present and future consumption of chocolate again spurred disagreement between the industry and the Department of Commerce. According to Commerce, per capita consumption of chocolate candy remained unchanged at 9.7 pounds. Sources within the chocolate industry, however, estimate the 1986 per capita consumption figure at 12 pounds. That's quite a difference.

Carmen Dubroc, Godiva Chocolatier's vice president of marketing, says of the Commerce Department figures, "I don't know where those figures are coming from. You can tell when the industry is flat; and if it were, there wouldn't be such a proliferation of new products."

Godiva's new line, *Barringer's*, represents what they see as a segment of the market with great potential—American chocolate. Priced in the $14 per pound range, Barringer's is a "giftable" line, but is geared to self-consumption, says Dubroc. This has not detracted from the Godiva line (priced in the super-premium range of about $21 a pound) because "it is a different consumer," he says.

Joan Steuer, of Chocolate Marketing Inc., shares Dubroc's enthusiasm. She sees a "large opportunity for American chocolate products that are upscale and all natural, along the line of the more traditional chocolates." Steuer calls these "homestyle, comfort" chocolates, such as turtles with macadamia nuts and cashews, or pistachio nuts in chocolate.

The super-premium imported chocolate market in 1986 was "not as strong" as previous years, reflecting maturity and a reaction to the value of the dollar that raised the cost of European chocolate considerably.

What's down the road in new products? Steuer sees white chocolate as being "very much of a trend...Nestle's *Alpine White* is the company's number two selling bar behind the *Crunch*."

Oversized, 3 ounce chocolate bars, "will be a growing market for U.S. manufacturers" says Steuer. And liquor-filled chocolates, as their manufacture becomes legal in more states, will become an increasingly popular item.

How about popcorn tossed with melted white chocolate and macadamia nuts? Already on the market are popcorn and potato chips covered, topped or tossed with chocolate.

The domestic chewing gum market, valued at $1.5 billion for 1986, reflects a "leveling off," according to Marshall Malloy at Warner-Lambert. "There really has not been very much in unit growth over the last three years." The sugarless variety, however, has grown by several percentage points per year, according to Malloy. Wrigley, entering this $800-million market with its *Extra* gum, has captured a 29 percent share.

Another growing area, frozen novelties, had a good year, according to A.E. Nielsen statistics, with 1986 retail volume growing 13 percent to $1.4 billion compared with 1985. Although it represented a 1 percent smaller increase than 1985's performance, 1986 numbers were still considered "a healthy volume." Total sales of novelties are estimated by Find/SVP to be at $2 billion, with an annual growth rate of 15 percent annually. The company expects the market for all novelties to rise to $4.2 billion by 1991.

DoveBar, Chipwich and frozen fruit juice bars continue to hold significant shares of the frozen novelty market. Find/SVP targets the fruit bar and frozen fruit cup segments as being particularly growth oriented, predicting an increase from $322 million in 1986 to $750 million in 1991. Why? Convenience, portion control and low price as well as providing nutrition, low calories, low cholesterol and good taste. Ice cream novelties are expected to grow from $953 million to $1.9 billion by 1991.

What's ahead? Says Joan Steuer, "More things like devil's food and brownie pudding. Yes, sleek, sophisticated products have their place, but the larger market is for old-fashioned, nostalgic things."

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STATE OF THE FOOD INDUSTRY

DRESSINGS AND SAUCES

(Continued from previous page)

As the national trend toward consumption of more nutritious foods continues, one area of the industry that benefits from a health-conscious consuming public is the the sauces and dressings industry. Salads continue to be a popular part of the American diet, consumed by children in school lunch programs, as well as teenagers and adults. Each serving of salad represents a serving of salad dressing, estimated at approximately one ounce.

The Association for Dressings & Sauces reports a 6 percent growth of the salad dressings and sauces industry in 1986 (figures do not include tomato sauces or condiments). Sales last year rose to 471.9 million gallons, which increased per capita consumption to 15.8 pints, up from the 1985 level of 14.9 pints.

All of this shakes out into a $1.5 billion retail market for sauces and dressings, says *Packaged Facts*, an informational industry newsletter, and the market is expected to grow to $1.9 billion in 1992, reflecting an annual growth rate of 4.3 percent. The $1.5 billion retail figure represents 45 percent of the total sauces and dressings market, conservatively estimated to be $2.756 billion.

Refrigerated dressings will see the biggest share of growth, estimated at 9 percent annually through 1992, or to $150 million, double its 1986 level, according to *Packaged Facts*. Pourable/spoonable/dry dressings will experience less than half that growth, estimated at only 4 percent.

Low-calorie and reduced dressings accounted for $146 million in sales in 1986, says Selling Areas-Marketing Inc. (SAMI) and an annual tonnage gain of 11 percent over 1985, spurred not only by a health-conscious consumer, but by expansion of the flavors available.

Another area of growth: "snob appeal" dressings, such as champagne honey mustard, poppy seed, tomato dill, apple cider, lemon pepper vinaigrette, and a wide range of gourmet-type flavors.

Along with being more health conscious and snob conscious, a great number of consumers are also more sodium conscious, sparking increased use of low-sodium sauces and dressings. Business Trend Analysts estimates that approximately 1.5 percent of the total sauces and dressings market is in low-sodium products. This segment has shown steady growth since 1980 and is expected to continue to escalate into the next decade. Estimate for low-sodium sauces and dressings by 1995: 23 percent of the total market, or double its share in 1980.

In retail dollars, meat sauces and Italian food sauces prospered in 1986, the former showing growth of 5.7 percent, to $204 million in 1986, and the latter showing growth of 5.2 percent, to $893 million, according to SAMI. In this very competitive market there has been growth in non-red sauces (such as Alfredo and Pesto) that appeal to the upscale shopper.

Condiments are experiencing an exhilarating growth and it is a trend that is expected to continue. A.C. Nielsen estimates the 1985 market for all condiments, including gravies, sauces, ketchup, chili sauce, spaghetti sauce, mustards, etc., was $2.92 billion. The first half of 1986 saw a $1.5 billion sales figure, which includes some seasonality for barbecue sauces, etc. The 1985 market through food stores alone was $700 million.

Mustards have become a hot item as health-conscious consumers use them to replace richer sauces. Yellow mustards alone grew 3.4 percent to $15.8 million in retail sales, according to SAMI. Mustards and other savory-type condiments are being used increasingly to enhance grilled foods.

Responding to a consumer preference for light sauces for fish and chicken is Lea & Perrins' White Wine Worcestershire sauce, according to the company. Distributed nationally, sales have been described by the company as "very encouraging."

Hot sauces are doing well, cashing in on the desire for trendy, spicy dishes. In 1986, according to SAMI, the hot sauce products category grew 6.1 percent to $49.3 million.

Edward Ogiba, managing director of Product Initiatives, a marketing research firm tracking new product introductions and innovations, describes condiments as "one of the fastest growing categories in terms of introductions...there is an area of opportunity there."

Product Movement of Sauces, Dressings, Condiments
(dollar value in millions at retail)

	1986	1985	
Mayonnaise	$658	$672	-2.0%
Spoonable Dressings	$401	$411	-2.5%
Pourable Dressings	$673	$653	+3.0%
Low/Reduced Calorie	$146	$131	+11.4%
Ketchup	$515	$511	+.8%
Yellow Mustard	$184	$178	+3.4%
Meat Sauce	$204	$193	+5.7%
Italian Food Sauce	$893	$849	+5.2%
Liquid Gravies, Sauces	$170	$158	+7.4%
Dry Gravies, Seasoning Sauces & Mix	$328	$306	+7.4%

Source: Selling Areas-Marketing Inc.

IS NATURAL BETTER?

Industry strives to meet consumer demand for convenient, fresh, and natural foods, while developing more shelf stable products according to FE's annual survey of ingredients buyers.

The members of FE's Executive Advisory Panel represent a broad range of experience in all segments of the food industry. Through panel surveys, we are able to keep on top of the latest food industry trends.

JOYCE FASSL
Managing Editor

The increased use of natural ingredients and more shelf stable products are what *Food Engineering's* Executive Advisory Panel sees as the major trends affecting the industry in this year's annual survey of ingredients buyers. And the importance of these trends is expected to become even stronger in the next few years, according to the panel.

Food Engineering surveyed over 300 people across the industry, encompassing all segments of the industry, with respondents in a variety of positions and authority levels in companies of all sizes.

Survey respondents said that a trend to-

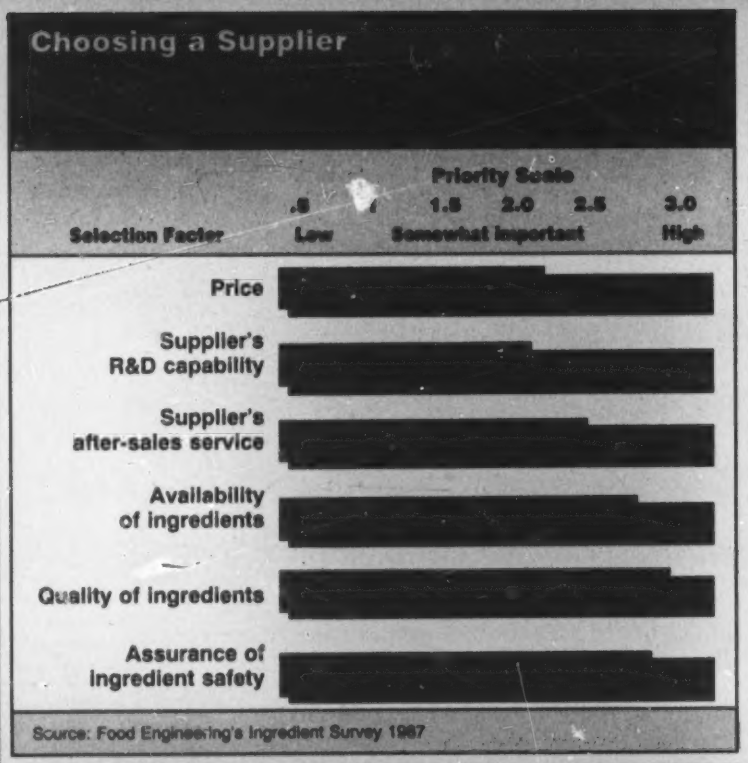
(Continued on page 98)

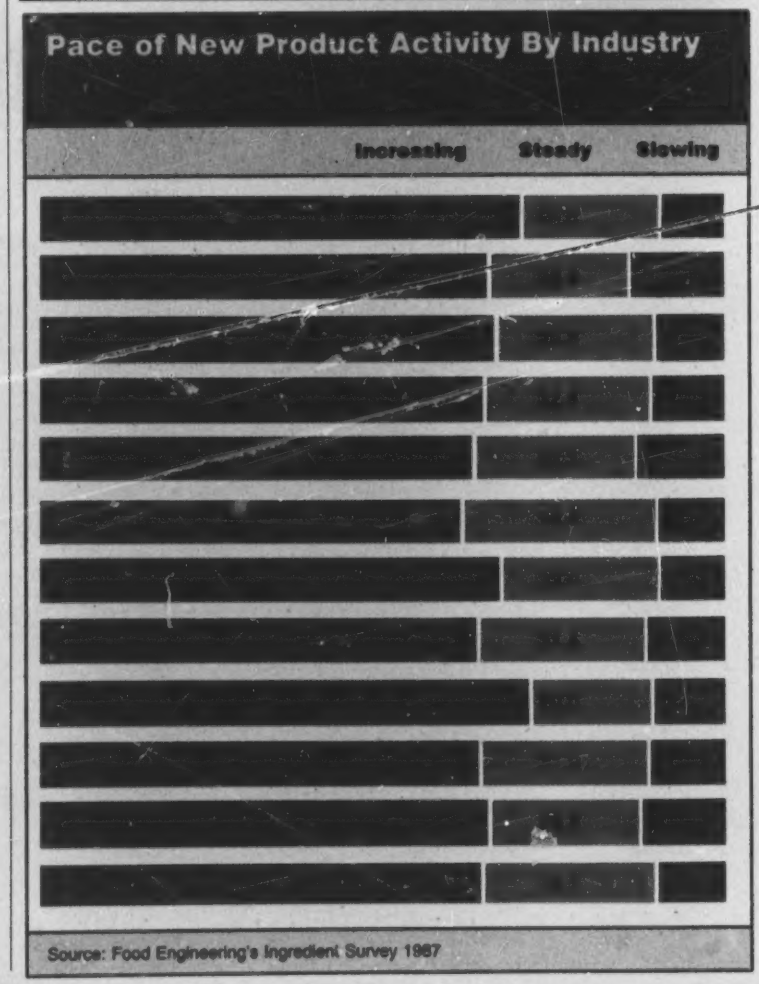
Product Development Influences Now and in the Future By Industry

1987 rating
1990 rating

	Total Panel	Meat	Bakery	Dairy	Flavors/ Food Ing.	Canned	Fats & Oils	Frozen Foods	Confect- ionery	Cereals/ Grains	Bever- ages	Other
Using natural ingredients	43.4 63.1	40.0 53.8	43.3 60.5	41.3 57.7	44.6 62.7	41.1 67.9	30.9 52.7	44.4 62.0	40.7 48.1	44.6 60.0	56.5 66.7	39.3 58.7
Lessening/eliminating preservatives	21.7 48.9	15.8 46.3	25.0 47.4	16.3 41.3	24.1 45.8	28.6 58.9	27.3 47.3	20.0 48.0	18.5 40.7	24.6 48.2	31.9 53.6	19.0 48.8
Vitamin fortification	12.3 23.6	13.8 23.8	11.8 22.4	16.3 26.0	13.3 22.9	14.3 26.8	14.5 21.8	14.0 24.0	11.1 20.4	13.8 16.9	11.6 27.5	15.5 29.8
Mineral fortification (particularly calcium)	11.7 26.9	10.0 21.3	10.5 26.3	21.2 31.7	10.8 26.9	12.5 35.7	9.1 20.0	14.0 30.0	16.7 27.8	12.3 23.1	11.6 31.9	16.7 32.1
Low & Reduced calorie foods	28.9 50.2	32.5 56.7	28.9 50.0	35.6 56.7	32.5 54.2	25.0 41.1	30.9 54.5	32.0 50.0	22.2 35.2	29.2 50.8	37.7 59.4	28.6 48.8
Reducing sodium content	34.4 48.9	40.0 53.8	27.6 43.4	39.4 58.7	32.5 60.2	37.5 53.6	29.1 52.7	36.0 56.0	25.9 40.7	27.7 47.7	37.7 58.0	25.3 44.0
Saturation level of fats	19.7 45.0	15.0 43.8	14.5 44.7	26.0 53.8	16.9 45.8	17.9 33.9	26.0 50.9	14.0 48.0	18.5 42.6	16.9 46.2	17.4 43.5	22.8 51.4
Reduced cholesterol content	22.7 42.7	17.5 51.3	19.7 44.7	30.8 53.8	21.7 47.0	17.9 35.7	20.0 45.5	16.0 52.0	20.4 35.2	21.5 40.0	23.2 43.5	29.8 47.6

Source: Food Engineering's Ingredient Survey 1987





INGREDIENTS BUYERS'

ward smaller packages, products that have a "fresh and natural" appeal to consumers, and more up-scale products will be vital to the industry in the coming years.

But, as consumers are demanding more natural and fresh products, they also want convenience. The industry is responding to consumer demand by introducing more "natural type" foods, such as refrigerated foods, but is still searching for the right blend that will be shelf stable, yet still have that natural and freshness appeal consumers say they want.

As one senior vice president from California aptly commented, "Increasing demand for freshness and convenience – a contradiction in terms?"

FE's survey found that labeling and lack of consumer familiarity with ingredients may be misleading consumers into thinking "natural" food is better for them.

"Due to media hype, the artificial color and preservative issue has been blown out of proportion," said an R&D manager from New York. "The average consumer doesn't realize the extremely low level at which these are used in typical applications."

"With all the conflicting reports on color additives and sweeteners," echoed a VP from Iowa, "the job of the food industry should be to sort fact from fiction and educate the consumer accordingly."

And claiming we were touching a raw nerve, one panel member responded, "The food industry is guilty of perpetuating the natural is better myth. We have our problems, but the U.S. has the safest, widest variety of foods anywhere and no one appreciates this."

A research scientist from New Jersey agrees. "All natural is not always best or desired. B-carotene or citric acid on the label is not the end of the world. Our own industry seems to help perpetuate the myth."

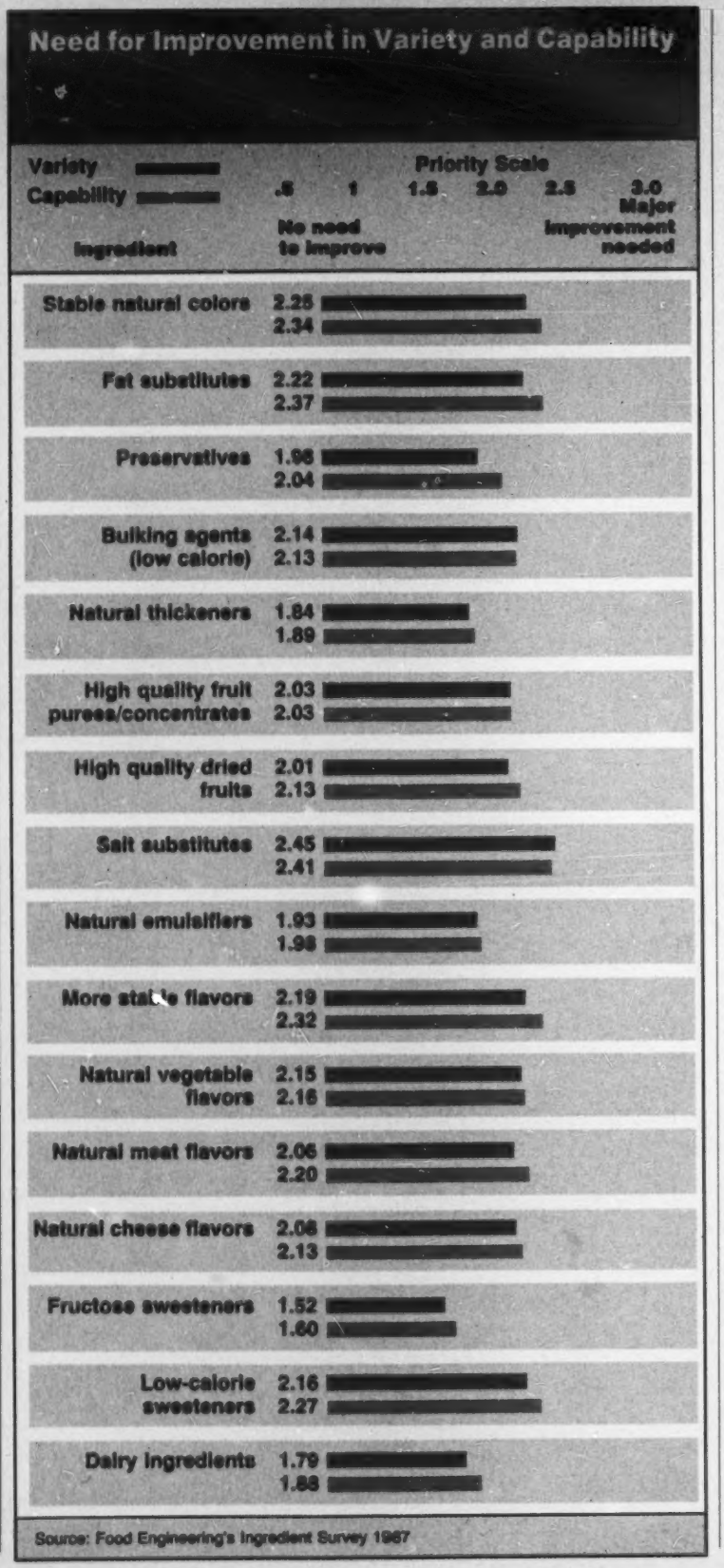
No, it's not the end of the world. With the consumer demand for reduced calorie foods and shelf stable foods, and their demand for foods with freshness appeal and more natural ingredients, the food industry certainly has a tough task in the years ahead.

Decision making

Asked to rate a number of possible influences affecting ingredients and product development decisions at their companies, the panel rated the importance of each influence for both the present and for three years from now (1990), using a scale of 1 to 3. As the numbers below show, the importance of these influences is expected to increase in

(Continued on page 100)

INGREDIENTS BUYERS' SURVEY



the coming years.

The panel rated natural ingredients as the number one factor influencing decisions both now (2.37) and in 1990 (2.56). Next in line were reducing sodium content (2.13/2.34), providing low and reduced calorie foods (2.09/2.38) and lessening/eliminating preservatives (2.05/2.38). Mineral fortification, particularly calcium (1.64/1.91), was rated least important by the panel. Of the the eight factors given to the panel, the one that was predicted to grow in importance the most between now and 1990 was saturation level of fats.

Quality Ingredients

Quality, not surprisingly, was of critical importance to *FE's* panel when choosing an ingredient supplier. On a scale of one to three, quality was rated 2.91 as a factor in ingredient decision making, the highest grade received by a factor for this question. Price was rated at only 2.16.

Close behind quality importance were assurance of ingredient safety (2.80), and availability of ingredients (2.74). Supplier's R&D capability received the lowest ranking for this question—2.07, though it was still considered a factor of some importance.

Areas of concern

Salt substitutes are one ingredient area, the survey shows, that is of concern. Panelists ranked salt substitutes as needing improvement in both variety (2.45) and capability (2.41). Other areas where the panel saw problems in variety and capability were stable natural colors, fat substitutes, more stable flavors and low-calorie sweeteners.

In addition, the panel was asked to review a list of 24 ingredient categories and tell us in which areas they found problems in price, supply, and/or current technology.

In general, supply was not a problem, with well over one-third of the respondents reporting none of the 24 ingredients had supply problems. But, the panel did find problems with current technology and, especially, price.

The price of natural flavors is a problem according to 35.9 percent of the panel, and 22.3 percent responded that the supply of natural flavors was also a problem. Seasoning and spices was the next highest problem area with 28.5 percent reporting that they had a problem with price and 17.8 having a problem with supply.

Price also showed up as a problem with cheese, gums, dehydrated fruits/vegetables,

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cocoa, fats and oils, sucrose sweeteners, and vitamin supplements with more than one out of five panel members.

The third area of concern we asked about, current technology, found that over 40 percent of the panel had problems with both antitoxins/preservatives and colors. And close to 25 percent of the panel thought there were current technology problems with natural flavors, flavor enhancers, artificial flavors and emulsifiers.

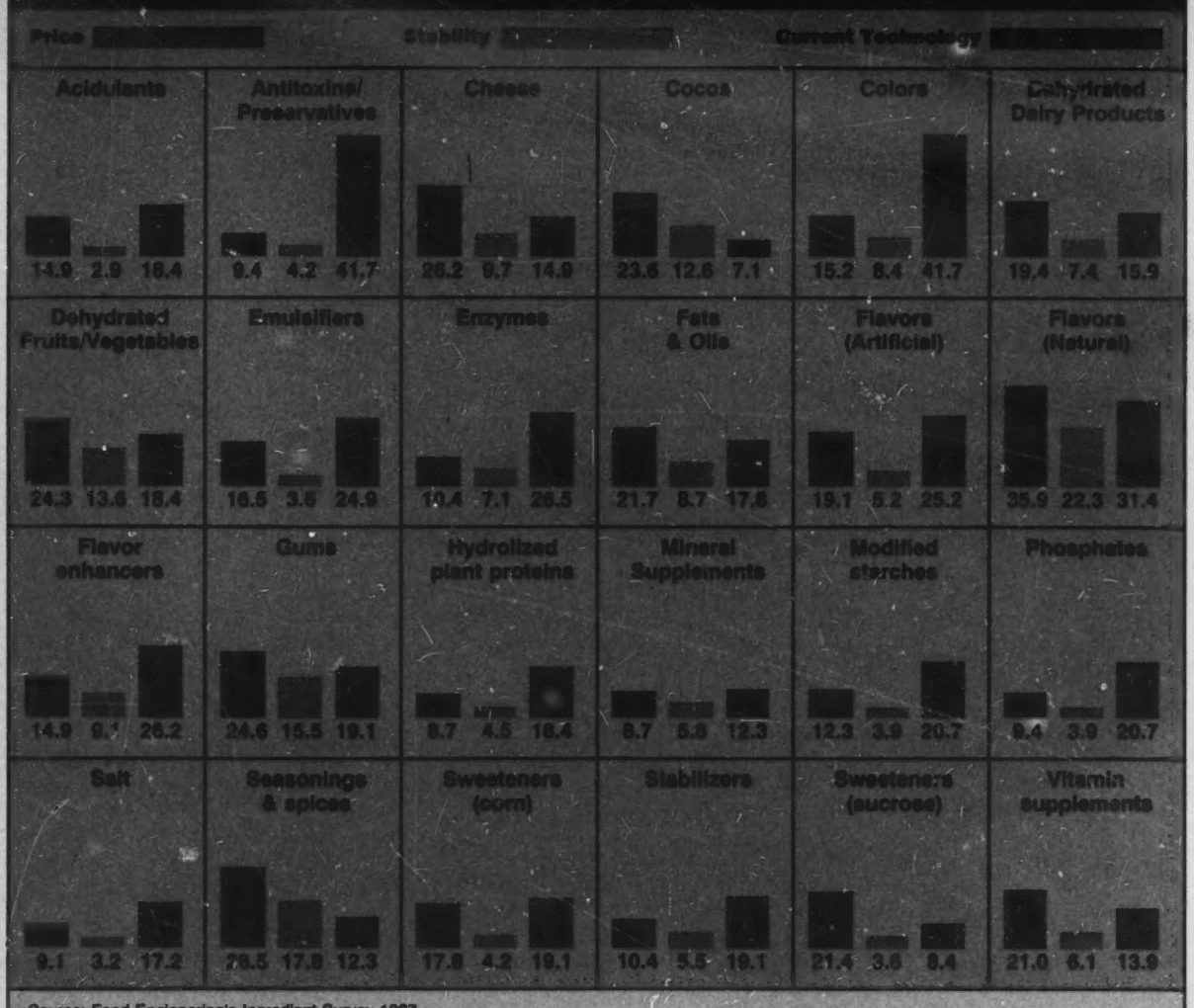
In the offing

Asked to speculate a few years ahead the panel was given free reign with *FE's* survey to predict food industry trends in either product development or ingredient requirements.

The consumer demand for more natural and fresh foods was mentioned more than any other new trend. The second most-mentioned panel prediction was the increase in production of shelf stable foods.

More than half of those responding to the survey said their company will increase activity in developing new products in all areas. And in contrast to last year's survey that showed that most of the new product activity was expected to occur in larger companies, this year's survey results showed that new product activity is expected to increase in companies of all sizes.

Problems of Price, Stability and Current Technology



Source: Food Engineering's Ingredient Survey 1987